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SECRETARY OF THE AIR FORCE**

**AIR FORCE INSTRUCTION 11-2EC-130J,
VOLUME 2**



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Flying Operations

***EC-130J AIRCREW EVALUATION
CRITERIA***

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This instruction implements Air Force Policy Directive (AFPD) 11-2, *Aircrew Operations*, AFPD 11-4, *Aviation Service*, Air Force Instruction (AFI) 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure*, and AFI 11-202, Vol 2, *Aircrew Standardization/Evaluation Program*. This instruction establishes requirements and grading criteria for ground and flight phases of initial, requalification, and periodic flight evaluations. Unless noted otherwise, instructions contained herein apply to EC130J aircraft. It provides the most acceptable policies and procedures for most circumstances, but does not replace sound judgment. This volume applies to the Air National Guard. This volume does not apply to the Air Force Reserve Command. Subordinate unit may supplement this instruction in accordance with (IAW) **Paragraph 1.5**. This publication requires the collection and or maintenance of information protected by the Privacy Act of 1974 authorized by 37 USC 301a, Incentive Pay: aviation career; Public Law 92-204, Appropriations Act for 1973; Section 715 Public Law 93-570, Appropriations Act for 1974; Public Law 93-294, Aviation Career Incentive Act of 1974; DOD Instruction 7730.57, Aviation Incentive Pays and Continuation Bonus Program; and Executive Order 9397 (SSN) as amended by Executive Order 13478, Amendments to Executive Order 9397 Relating to Federal Agency Use of Social Security Numbers, November 18, 2008. The applicable System of Records Notice (SORN), F011 AF XO A, Aviation Resource Management Systems (ARMS), is available at: <https://dpclo.defense.gov/privacy/SORNs/SORNS.html>. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the Air

Force (AF) Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional chain of command. Unless prescribed within this publication, requests for waivers must be submitted through chain of command to the OPR listed above for consideration and approval. Ensure that all records created as a result of processes prescribed in this publication are maintained IAW Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located in the Air Force Records Information Management System (AFRIMS).

SUMMARY OF CHANGES

This document is substantially revised and must be completely reviewed. This revision reorganizes the format of chapters and paragraphs for increased understanding with **Chapter 2** applicable to all crew positions, **Chapter 3** applicable to instructors, **Chapter 4** created a common grading evaluation, and following chapters applicable to individual crew positions. Grading criteria tables have been standardized across crew positions where applicable and expanded to include specific grading criteria such as airdrop and airland. Evaluation methods are identified by notes in the crew specific tables as: in-flight only; in-flight and/or in simulator; and in-flight and/or alternate methods. Guidance was added allowing Weapon System Trainers (WST) to be used to accomplish evaluations or portions of evaluations if certified by HQ AFSOC/A3T and A3V. Low-level operations, airdrop, Infil/Exfil operations, Maximum Effort procedures and FARP have been added in individual crew position chapters as appropriate. Tier requirements have been annotated.

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Chapter 1

GENERAL INFORMATION

1.1. General. This guidance establishes requirements and grading criteria for ground and flight phases of initial, requalification, and periodic flight evaluations. Aircrew evaluations will be conducted IAW this guidance and AFI 11202, Vol 2, *Aircrew Standardization/Evaluation Program*, as supplemented. Specific areas for evaluation are prescribed to ensure an accurate assessment of the proficiency and capabilities of aircrews. Flight examiners use the AFI when conducting aircrew evaluations. Instructors use this guidance when preparing aircrews for qualification. Waiver, supplement, evaluation procedures, grading instructions and requirements sections are Tier 2 requirements and can only be waived by MAJCOM/CC or delegate unless otherwise noted. (T-2)

1.2. Applicability. This guidance applies to all individuals performing crew duties on any C130J variant. Evaluations for all crew positions can be given on any appropriate C-130J, Weapons System Trainers (WST), aircrew training device (ATD), or Part Task Trainer (PTT) unless stated otherwise.

1.3. Keywords and Definitions.

1.3.1. “Will” and “Shall” indicate a mandatory requirement.

1.3.2. “Should” is normally used to indicate a preferred, but not mandatory, method of accomplishment.

1.3.3. “May” indicates an acceptable or suggested means of accomplishment.

1.3.4. “**Note:**” indicates operations procedures, techniques, etc., considered essential to emphasize.

1.4. Waivers. Waiver authority for the contents of this document is AF/A3O. IAW AFI 11202, Vol 2, the MAJCOM/A3 is the waiver authority for individual aircrew requirements on a case-by-case basis, but the MAJCOM/A3 may not approve blanket or group (two or more aircrew) waivers. Waiver requests should be submitted through MAJCOM Standardization and Evaluation channels to the A3. As applicable, MAJCOM/A3 will forward requests to AF/A3O, with an info copy to AF/A3OI. (T-2)

1.4.1. Tier requirements refer to waiver authority based on level of risk.

1.4.1.1. “Tier 1” (T-1) requirements are reserved for requirements that non-compliance may put airman or mission strongly at risk, and may only be waived by the MAJCOM/CC or delegate. This AFI contains Tier 1 requirements.

1.4.1.2. “Tier 2” (T-2) requirements are reserved for requirements that potentially put the mission at risk or potentially degrade the mission or program, and may only be waived by the MAJCOM/CC or delegate.

1.4.1.3. “Tier 3” (T-3) requirements are reserved for requirements that non-compliance has a remote risk of mission failure, and may be waived by the Wing/CC but no lower than the OG/CC.

1.5. Supplements. Units are encouraged to supplement this guidance with standard evaluation profiles that best fit the unit's mission, equipment, and location. MAJCOMs will forward a copy of MAJCOM supplements to AF/A3OI, through HQ Air Force Special Operations Command (AFSOC)/A3V, for approval. Units below MAJCOM level will forward one copy of each supplement to their MAJCOM Office of Primary Responsibility for pre-publication review. (T-2)

1.6. Changes. Recommendations for improvement to this publication are encouraged. AF/A3OI is approval authority for changes to this instruction Annex. AFSOC/A3V will issue approved changes to this AFI through MAJCOM/A3 channels. Refer recommended changes and conflicts between this and other publications to HQ AFSOC/A3V, AFSOC/A3V 847 (<https://teams.afsoc.af.mil/sites/StanEval/Lists/AFForm%20847%20Log/AllItems.aspx>) on AF Form 847, *Recommendation for Change of Publication*. HQ AFSOC/A3V will forward changes to AF/A3OI for final approval prior to implementation. (T-2)

1.7. Evaluation Procedures. Before the Aircraft Commander Briefing, the evaluator will inform the aircraft commander of any special requirements. Flight examiners will brief the examinee on the conduct, purpose, and requirements of the evaluation, as well as all applicable evaluation criteria, prior to flight. The examinee will accomplish all required mission planning. If an Operations Planning Team or Deployment Planning Team accomplishes mission planning, the examinee is ultimately responsible for the accuracy and completeness of all mission-planning paperwork. Flight examiners will be furnished a copy of necessary charts, flight logs, mission folders, and any additional items they deem necessary. (T-2)

1.7.1. Flight examiners will ensure all required training and documentation is complete prior to initial/qualification evaluations.

1.7.2. Unless requested by examinee and approved by squadron supervision, the examinee will be current for all events evaluated during a periodic evaluation.

1.7.3. Flight examiners will not intentionally fail any equipment during flight evaluations, but may deny the use of systems not affecting safety of flight.

1.7.4. Under no circumstances will a pilot flight examiner allow the aircraft to slow to below one engine inoperative air minimum control speed (Vmca), regardless of airspeed tolerances listed for specific areas.

1.7.5. Flight examiners will thoroughly debrief/critique all aspects of the flight. During the critique, the flight examiner will review the examinee's overall rating, specific deviations, area/subarea grades assigned, and any additional training required.

1.8. Grading Instructions. All evaluations will follow the guidelines set in AFI 11-202, Vol 2 as supplemented, and this volume. Examiners will use the criteria contained in this volume to accomplish all flight, simulator, and emergency procedures evaluations. To ensure standard and objective evaluations, flight examiners will be thoroughly familiar with the prescribed evaluation criteria. (T-2)

1.8.1. Area/Subarea Grades. Areas/subareas will have a two-level (Q/U) or three-level (Q/Q-U) grading system. Discrepancies will be documented against the listed subareas.

1.8.1.1. Q. is the desired level of performance. The examinee demonstrated a satisfactory knowledge of all required information, performed aircrew duties within the prescribed tolerances, and accomplished the assigned mission.

1.8.1.2. Q-. indicates the examinee is qualified to perform the assigned area/subarea tasks, but requires debriefing or additional training as determined by the flight examiner. Deviations from established standards must not exceed the prescribed Q- tolerances or jeopardize flight safety.

1.8.1.3. U. indicates a breach of flight discipline, performance outside allowable parameters or deviations from prescribed procedures/tolerances that adversely affected mission accomplishment or compromised flight safety. An examinee receiving an area/subarea grade of U normally requires additional training. When, in the judgment of the flight examiner, if additional training will not constructively improve examinee's performance, it is not required. In this case, the flight examiner must thoroughly debrief the examinee.

1.8.2. Critical Areas. Critical areas require adequate accomplishment by the aircrew member in order to successfully achieve the mission objectives. If an aircrew member receives an unqualified grade in any critical area, the overall grade for the evaluation will also be unqualified. Critical areas are identified by “(Critical)” in the area title and by shading of the Q- block on the appropriate AFSOC Form 48, *Flight Evaluation Worksheet*, (evaluation worksheet) or AF Form 3862, *Flight Evaluation Worksheet*.

1.9. Evaluation Requirements. Evaluation profiles will reflect a sampling of the unit's missions. Evaluation tables are provided to summarize evaluation areas. Areas common to all crew members are contained in **Tables 2.1** and **4.1**. Instructor evaluation areas are in **Table 3.1**. Evaluation areas unique to each crew position are located in their respective chapter. Each crew specific chapter defines required events. Evaluation methods are identified by notes in the crew specific tables and include: in-flight only; in-flight and/or in simulator (see **Paragraph 1.9.1**); and in-flight and/or alternate methods (see **Paragraph 1.9.2**). For areas without a note, flight examiners may evaluate at their discretion if observed. If required events are not observed, then the evaluation is incomplete and will be accomplished on another flight. (T-2)

1.9.1. Simulator. Weapon System Trainers (WST) with a C or greater certification (or Training Value Code) of 3 or greater for all areas evaluated as determined by Simulator Certification may be used to accomplish evaluations. Simulator certifications will be located at the HQ AFSOC/A3T website.

1.9.1.1. If an area/subarea was not able to be evaluated in-flight, and the event is certified for evaluation purposes in the simulator, it can be evaluated in the simulator to complete the evaluation. Document in the comments section of AF Form 8/8a, *Certificate of Aircrew Qualification*, which portion(s) of evaluation were conducted in simulator.

1.9.2. Alternate Method. When it is impossible to evaluate an area in-flight due to equipment malfunctions, operational requirements, scheduling restrictions, or weather, the area may be evaluated by an alternate method (i.e., procedural trainer, or verbal examination). If, in the flight examiner's judgment, an item cannot be adequately evaluated by an alternate method, complete the evaluation on an additional flight.

1.9.3. Grading Criteria. To the maximum extent possible, flight examiners will use the grading criteria in this volume to determine individual area grades. Exercise judgment when the wording of areas is subjective and when specific areas are not covered. Flight examiner judgment will be the determining factor in arriving at the overall grade. Consider cumulative deviations when determining the overall grade.

1.9.3.1. Base tolerances for in-flight parameters on conditions of smooth air and a stable aircraft. In some cases, momentary deviations are allowable provided the examinee applies prompt corrective action and such deviations do not jeopardize safety.

1.10. Unsatisfactory Performance. If the flight examiner observes an aircrew counterpart jeopardizing safety, the examiner will assume the duties of that aircrew member (provided the examiner's Flight Duty Period (FDP) does not exceed AFI 11-202, Vol 3, *General Flight Rules* maximum FDP for an un-augmented crew). This does not mean the examiner must assume the examinee's position any time unsatisfactory performance is observed. If the examiner feels the examinee can continue safely with supervision, the examiner is not required to assume the examinee's duties. However, if the flight examiner assumes the examinee's duties, assign a Qualification Level 3 (Q-3) as the overall grade. (T-2)

1.10.1. Evaluators must report deviations/discrepancies from established procedures/directives in any area, regardless of the individual's crew specialty, to squadron or group commander, along with evaluator's recommendation for corrective action, IAW AFI 11-202, Vol 2, and MAJCOM supplement. (T-3)

1.11. Additional Training. Flight examiners are responsible for assigning additional training, at their discretion. Document additional training and completion IAW AFI 11-202, Vol 2, and MAJCOM supplement. Any approved training device or medium may be used.

1.11.1. Additional training may be accomplished on the same flight as the evaluation, provided the unique situation presents a valuable training opportunity (i.e., crosswind landings), and the discrepancy requiring the additional training will not result in overall Q-3 evaluation. This option requires flight examiner discretion and judicious application. The examinee must be informed when the additional training begins and ends.

1.12. Rechecks. Rechecks will normally be administered by a flight examiner other than the one who administered the original evaluation.

1.13. Special Qualifications. Special qualification evaluations are administered for events that are not universal to all members in that crew position. Special qualification evaluations may be conducted separately or in conjunction with the qualification/mission evaluations. After qualification, areas can be graded as part of periodic Mission Evals. There are no requisites for special qualification evaluations unless specified. Refer to the appropriate crew position for any special qualification evaluation requirements.

1.13.1. Special qualifications result in an AF Form 8/8a. Document IAW AFI 11-202, Vol 2, as SPOT evaluations. Although a unit may maintain 100% of its crew members qualified, this documentation is still required due to interfly and permanent change of station issues.

1.14. Multiple Qualification.

1.14.1. Qualification Evaluation. Aircrew maintaining qualification on any EC-130J aircraft does not require an additional qualification evaluation on any C-130J variant. See

AFI 112EC130J, Vol 1, *EC-130J Aircrew Training*, (or equivalent) for differences training and currency requirements for multi-qualified aircrew.

1.14.2. Mission Evaluation. Multi-qualified aircrew can exercise EC-130J mission qualification Tactics, Techniques, and Procedures (TTP) and training events IAW AFI-11-2EC-130J, Vol 1, (or equivalent) minus any restrictions on their AF Form 8 on any C-130J variant.

1.15. Roles and Responsibilities.

1.15.1. Refer to **Paragraphs 1.4** through **1.14**.

Chapter 2

ALL EVALUATIONS

2.1. General. The general grading criteria contained in this chapter applies to all crew positions and all evaluations. The examinee must satisfactorily demonstrate the ability to perform required duties safely and effectively. This includes appropriate aircraft systems operation IAW applicable technical order(s) (TO), instructions, and directives. All evaluation requirements including grading criteria are Tier 2 requirements. (T-2)

2.2. Requirements. Evaluate all crew members on areas listed in [Table 2.1](#) and applicable areas in [Table 4.1](#) and tables defined for individual crew positions in subsequent chapters. (T-2)

2.2.1. Examinations. All crew members will complete open and closed book examinations as a requisite to periodic evaluations IAW AFI 11-202, Vol 2, and applicable supplements.

2.2.2. Emergency Procedures Evaluation (EPE). An EPE is a requisite for all Qualification (QUAL) and Mission (MSN) evaluations except special mission evaluations. EPE may be conducted verbally, in-flight, in a simulator, or by another method determined by the examiner or unit Stan/Eval. OGV may develop EPE guides for each crew position for flight examiner use. EPE should be scenario driven, and tailored to the specific crew position. The EPE will include areas commensurate with the examinee's qualification and experience level. Examiners should include other general knowledge areas as well. For mission evaluations, evaluate mission-specific equipment and situations. EPE will include sufficient in-flight and ground emergencies to evaluate the examinee's knowledge of systems and procedures to the flight examiner's satisfaction.

2.2.2.1. Examinees may use publications that are normally available in-flight. The examinee must recite all BOLDFACE items from memory and should provide the initial steps of emergency procedures that, in the opinion of the examiner, would not allow time for reference.

2.2.2.2. Grading criteria for EPE are outlined in area 5 of General Grading Areas.

2.2.3. Publications Check. Required for all QUAL or combined QUAL/Mission evaluations as outlined in area 12 of General Grading Areas.

2.2.4. Cockpit/Crew Resource Management (CRM). In accordance with AFI 11-290, *Cockpit/Crew Resource Management Training Program*, crew resource management skills will be evaluated during initial and periodic evaluations. CRM skills are integral to all phases of flight; therefore, no specific area titled CRM exists. CRM skills are imbedded within specific grading criteria (mission planning, airmanship/situational awareness, crew coordination, communication, risk management/decision making, task management, and briefing/debriefing) and include all of the skills listed on the AF Form 4031, *CRM Skills Criteria Training/ Evaluation Form*. Therefore, use of the AF Form 4031 is unnecessary for evaluations.

2.2.5. Formal Course Evaluations. All required areas must be evaluated for the type of evaluation flown, IAW guidance in this volume. Grade training objectives and related areas using the performance criteria in this volume.

Table 2.1. General Grading Areas (all crew positions and all evaluations) (T-2).

Area	Grading Areas
1	Safety – CRITICAL ¹
2	Aircrew Discipline – CRITICAL ¹
3	Airmanship/Situational Awareness – CRITICAL ¹
4	Boldface – CRITICAL ²
5	Emergency Procedures Evaluation
6	Crew Coordination ¹
7	Mission Planning
8	Knowledge of Directives
9	Preflight ¹
10	Use of Checklist ¹
11	Forms/Reports/Logs
12	Personal/Professional Equipment/Flight Publications
13	Emergency and Life Support Equipment/Procedures
14	Briefings/Debriefings
15	Classified Material/Operations Security
16	Anti-Hijacking/Aircraft Security ²
17	Communication ¹
18	Risk Management/Decision Making
19	Task Management ¹
Notes: 1. Required in-flight or simulator certified for this event. 2. Only required for QUAL evaluation.	

2.3. General Grading Criteria. (T-2)**2.3.1. Area 1. Safety - (CRITICAL).**

2.3.1.1. Q. Was aware of and complied with all safety factors required for safe aircraft/equipment operation and mission accomplishment. Identified and assessed risk appropriately. Properly considered consequences of decisions.

2.3.1.2. U. Not aware of or did not comply with all safety factors required for safe aircraft/equipment operation or mission accomplishment. Failed to properly identify and assess risk. Failed to consider consequences of decisions. Operated the aircraft/equipment in a dangerous manner.

2.3.2. Area 2. Aircrew Discipline - (CRITICAL).

2.3.2.1. Q. Demonstrated strict professional flight and crew discipline throughout all phases of the mission.

2.3.2.2. U. Failed to exhibit strict flight and crew discipline. Violated or ignored rules or instructions.

2.3.3. Area 3. Airmanship/Situational Awareness - (CRITICAL).

2.3.3.1. Q. Executed the assigned mission in a timely, efficient manner. Anticipated situations that would have adversely affected the mission, and corrected them. Made appropriate decisions based on available information. Recognized the need for action. Aware of performance of self and other flight members. Aware of on-going mission status. Recognized, verbalized, and acted on unexpected events.

2.3.3.2. U. Decisions or lack thereof caused failure to accomplish assigned mission. Did not recognize the need for action. Not aware of performance of self and other flight members. Not aware of on-going mission status. Failed to recognize, verbalize, and act on unexpected events.

2.3.4. Area 4. Boldface – (CRITICAL).

2.3.4.1. Q. Able to recite/write the proper emergency boldface actions in the correct sequence with no discrepancies (not necessarily a verbatim response).

2.3.4.2. U. Failed to recite/write emergency boldface items in the correct sequence. Discrepancies in the procedure.

2.3.5. Area 5. Emergency Procedures Evaluation (EPE).

2.3.5.1. Q. Satisfactory systems/procedural knowledge. Operated within prescribed limits and correctly diagnosed problems. Performed and/or explained proper corrective action, in the proper sequence, for each type of malfunction. Accomplished all required checklists and/or effectively used available aids. Thoroughly described the location, use, and limitations of emergency equipment.

2.3.5.2. Q-. Marginal systems/procedural knowledge. Slow to analyze problems or apply proper corrective actions. Did not effectively use checklist and/or available aids. Minor omissions or deviations in describing the location, use, and limitations of emergency equipment.

2.3.5.3. U. Unsatisfactory systems/procedural knowledge. Failed to analyze problem or take corrective action. Failed to accomplish required checklists and/or unable to locate information in available aids. Major omissions or deviations in describing the location, use and limitations of emergency equipment.

2.3.6. Area 6. Crew Coordination.

2.3.6.1. Q. Provided direction/information when needed. Adapted to meet new situational demands and focused attention on the task. Knew assigned task of other crew members. Asked for inputs, and made positive statements to motivate crew members.

2.3.6.2. Q-. Crew coordination was limited though adequate to accomplish the mission. Provided limited direction/information when needed. Slow to adapt to meet new

situational demands due to limited focus on task. Did not consistently seek inputs from other crew members. Limited effort to motivate crew members through positive statements.

2.3.6.3. U. Did not provide direction/information when needed. Did not adapt to meet new situational demands and focus attention on the task. Did not seek inputs or made no effort to make positive statements to motivate crew members. Lack of crew coordination resulted in significant degradation of mission accomplishment.

2.3.7. Area 7. Mission Planning.

2.3.7.1. Q. Clearly defined the mission overview and mission goals. Provided specific information on required tasks. Solicited feedback from other crew members to ensure understanding of mission requirements. Thoroughly critiqued plans to identify potential problem areas and ensured all had understanding of possible contingencies. Checked all factors applicable to flight such as Flight Information Publication, weather, notice to airman system, alternate airfields, flight logs, performance data, fuel requirements, and charts. When required, extracted necessary information from air tasking order/frag. Aware of the available alternatives if unable to complete the flight/mission as planned. Read and signed off all items in the Flight Crew Information File (FCIF)/read files required for flight.

2.3.7.2. Q-. Did not adequately define the mission overview and mission goals. Potential problem areas partially addressed or not at all. Did not adequately solicit feedback or critique the plans to ensure understanding of possible contingencies. Minor errors or omissions detracted from mission effectiveness, but did not affect mission accomplishment. Limited knowledge of performance capabilities or approved operating procedures/rules.

2.3.7.3. U. Did not define the mission overview and goals. Lack of specific information on required tasks. Did not solicit feedback from other crew members to ensure understanding. Did not critique plans to identify potential problem areas. Major errors or omissions would have prevented a safe or effective mission. Unsatisfactory knowledge of operating data or procedures. Failed to read and sign off all items in the Flight Crew Information File/read files required for flight.

2.3.8. Area 8. Knowledge of Directives.

2.3.8.1. Q. Prepared and completed mission in compliance with existing instructions and directives. Demonstrated knowledge of operating procedures and restrictions and where to find them in the correct publications.

2.3.8.2. Q-. Minor deviations to procedures. Unsure of directives and/or had difficulty locating information in appropriate publications. Any instances of non-compliance did not jeopardize safety.

2.3.8.3. U. Unaware of procedures and/or could not locate them in the appropriate publication in a timely manner. Failed to comply with a procedure that could have jeopardized safety or mission success.

2.3.9. Area 9. Preflight.

2.3.9.1. Q. Completed systems preflight/inspections IAW tech orders, checklists, and instructions. Individual technique complied with established procedures.

2.3.9.2. Q-. Minor deviations from established systems preflight/inspection. Individual technique was safe, but detracted from established procedures. Used individual technique instead of established procedure and was unaware of differences.

2.3.9.3. U. Failed to preflight critical component or could not conduct a satisfactory preflight/inspection. Individual techniques unsafe and/or in violation of established procedures.

2.3.10. Area 10. Use of Checklist.

2.3.10.1. Q. Used correct checklists, gave correct responses, and accomplished appropriate actions at the appropriate time throughout the mission.

2.3.10.2. Q-. Checklist responses were untimely and/or crew member required continual prompting for correct responses/action.

2.3.10.3. U. Used incorrect checklist or consistently omitted checklist items. Was unable to identify the correct checklist to use for a given situation. Omitted or did not complete checklist(s) at the appropriate time.

2.3.11. Area 11. Forms/Reports/Logs.

2.3.11.1. Q. All required forms and/or flight plans were complete, accurate, readable, and accomplished on time IAW applicable directives. Relayed an accurate debrief of significant events to applicable agencies (Intel, Weather, Maintenance, etc.).

2.3.11.2. Q-. Minor errors on forms and/or flight plans did not affect conduct of the flight/mission. Incorrectly or incompletely reported some information due to minor errors, omissions, and/or deviations.

2.3.11.3. U. Did not accomplish required forms and/or flight plans. Omitted or incorrectly reported significant information due to major errors or omissions.

2.3.12. Area 12. Personal/Professional Equipment/Flight Publications. Note: Required flight publications are specified in AFI 11-2EC-130J, Vol 3, (or equivalent guidance).

2.3.12.1. Q. Had all required personal and professional equipment. Displayed satisfactory knowledge of the care and use of such equipment and the contents of required publications. Required equipment inspections were current. Publications were current, contained all supplements/changes and were properly posted.

2.3.12.2. Q-. Did not have all required personal/professional equipment or had limited knowledge of the use or the content of required publications. Publications contained deficiencies that would not impact flight safety or mission accomplishment.

2.3.12.3. U. Did not have required personal/professional equipment essential for the mission. Unsatisfactory knowledge of the care and use of equipment or the content of required publications. Equipment inspections were overdue or equipment was unserviceable. Publications were outdated and/or contained deficiencies that would impact flight safety or mission accomplishment.

2.3.13. Area 13. Emergency and Aircrew Flight Equipment/Procedures.

2.3.13.1. Q. Satisfactory systems/procedural knowledge. Displayed satisfactory knowledge of location and use of emergency and aircrew flight equipment. Operated within prescribed limits and correctly diagnosed problems. Performed/explained proper wear, use, and corrective action for each type of equipment/malfunction. Effectively used available aids.

2.3.13.2. Q-. Marginal systems/procedural knowledge. Limited knowledge of location and use of emergency and life support equipment. Operated within prescribed limits but was slow to analyze problems or apply proper corrective actions did not effectively use, omitted, or deviated in use of checklist and/or available aids.

2.3.13.3. U. Unsatisfactory systems/procedural knowledge. Displayed unsatisfactory knowledge of emergency and aircrew flight equipment. Exceeded flight manual limitations. Unable or failed to analyze problem or take proper corrective action. Did not use checklist and/or available aids.

2.3.14. Area 14. Briefings/Debriefings.

2.3.14.1. Q. Ensured briefing contained all applicable information. Prepared at briefing time. Briefings effectively organized and professionally presented in a logical sequence. Presented all objectives, training events, and special interest items. Effectively used available briefing aids. Debriefed mission using specific, non-threatening positive and negative feedback of team and individual performance. Provided specific ways to correct errors. Asked for inputs from others. Re-capped key points and compared mission results with mission objectives.

2.3.14.2. Q-. Omitted items pertinent but not critical to the mission. Some difficulty communicating clearly. Did not make effective use of available briefing aids. Limited discussion of training events or special interest items. Dwelled on non-essential items. Not fully prepared for briefing. Debriefed mission without specific, non-threatening positive and negative feedback on individual and team performance. Did not consistently seek input from others. Incomplete or inadequate re-cap of key points and comparison of mission results to mission objectives.

2.3.14.3. U. Failed to conduct/attend required briefings. Failed to use appropriate briefing aids. Omitted essential items or did not correct erroneous information that could affect mission accomplishment. Demonstrated lack of knowledge of subject. Briefing poorly organized and not presented in a logical sequence. Presented erroneous information that would affect safe/effective mission accomplishment. Presentation created doubts or confusion. Failed to discuss training events or special interest items. Late crew step due to excessively long briefing. Did not provide non-threatening positive and negative feedback during debriefing. Did not seek input from others. Did not re-cap key mission points nor compare mission results to mission objectives.

2.3.15. Area 15. Classified Material/Operations Security.

2.3.15.1. Q. Demonstrated thorough knowledge of communications/operations security procedures and courier procedures (if applicable). Had positive control of classified documents and information used throughout the mission. Properly stored, handled, and/or destroyed all classified/Communication Security (COMSEC) material or information generated during the mission. Practiced sound COMSEC/Operations

Security (OPSEC) during all phases of the mission. Identified, requested, and obtained all cryptological material required for the mission.

2.3.15.2. Q-. Limited knowledge of COMSEC/OPSEC procedures and/or courier procedures (if applicable). Limited knowledge of proper storage, handling, and destruction procedures would not have resulted in compromise of classified material/COMSEC, and did not impact mission accomplishment. Identified cryptological material required for mission, but was slow in requesting/obtaining material or did so only after being prompted.

2.3.15.3. U. Unsatisfactory knowledge of COMSEC/OPSEC. Classified documents, COMSEC or information would have been compromised as a result of improper control by examinee. Unfamiliarity with OPSEC procedures had or could have had a negative impact on mission accomplishment. Failed to identify, request, or obtain all cryptological materials required for the mission.

2.3.16. Area 16. Antihijacking/Aircraft Security.

2.3.16.1. Q. Explained proper antihijacking/aircraft security procedures.

2.3.16.2. Q-. Difficulty explaining proper antihijacking/aircraft security procedures.

2.3.16.3. U. Could not explain proper antihijacking/aircraft security procedures.

2.3.17. Area 17. Communication.

2.3.17.1. Q. Communicated using precise, standard terminology. Acknowledged all communications. Asked for/provided clarification when necessary. Stated opinions/ideas. Asked questions when uncertain. Advocated specific courses of action. Did not let rank affect mission safety.

2.3.17.2. Q-. Unclear or incomplete communication led to repetition or misunderstanding. Slow to ask for or give constructive feedback/clarifications. Inconsistent use of precise, standard terminology. Did not always state opinions/ideas, ask questions when uncertain, or make positive statements to flight members.

2.3.17.3. U. Failed to communicate effectively. Continuously interrupted others, mumbled, and/or conduct/attitude was detrimental to communication among crew members. Withheld information and failed to ask for/respond to constructive criticism. Failed to use precise, standard terminology. Repeatedly failed to acknowledge communications. Did not state opinions, ask questions when unsure, or attempt to motivate flight members using positive statements.

2.3.18. Area 18. Risk Management/Decision Making.

2.3.18.1. Q. Identified contingencies and alternatives. Gathered and cross-checked relevant data before deciding. Clearly stated problems and proposed solutions. Investigated doubts and concerns of crew members. Used facts to come up with solution. Involved and informed necessary crew members when appropriate. Coordinated mission crew activities to establish proper balance between command authority and crew member participation, and acted decisively when the situation required. Clearly stated decisions, received acknowledgement, and provided rationale for decisions.

2.3.18.2. Q-. Partially identified contingencies and alternatives. Made little effort to gather and cross-check relevant data before deciding. Did not clearly state problems and propose solutions. Did not consistently use facts to come up with solutions. Did not effectively inform crew members when appropriate. Did not effectively coordinate mission crew activities to establish a proper balance between command authority and crew member participation, and acted indecisively at times.

2.3.18.3. U. Failed to identify contingencies and alternatives. Made no effort to gather and cross-check relevant data before deciding. Did not inform necessary crew members when appropriate. Did not use facts to come up with solution. Avoided or delayed necessary decisions which jeopardized mission effectiveness. Did not coordinate mission crew activities to establish proper balance between command authority and crew member participation; acted indecisively.

2.3.19. Area 19. Task Management.

2.3.19.1. Q. Correctly prioritized tasks. Used available resources to manage workload. Asked for assistance when overloaded. Clearly stated problems and proposed solutions. Accepted better ideas when offered. Used facts to come up with solution. Clearly communicated and acknowledged workload and task distribution. Demonstrated high level of vigilance in both high and low workload conditions. Prepared for expected or contingency situations. Avoided the creation of self-imposed workload/stress. Recognized and reported work overloads in self and others.

2.3.19.2. Q-. Did not consistently and correctly prioritize tasks. Did not effectively use available resources to manage workload. Did not clearly communicate and acknowledge workload and task distribution. Did not consistently demonstrate high level of vigilance in both high and low workload conditions. Slow to prepare for expected or contingency situations. Created some self-imposed workload/stress due to lack of planning. Slow to recognize and report work overloads in self and others.

2.3.19.3. U. Failed to correctly prioritize tasks. Did not use available resources to manage workload. Did not communicate and acknowledge workload and task distribution. Did not demonstrate high level of vigilance in both high and low workload conditions. Extremely slow to prepare for expected or contingency situations. Created self-imposed workload/stress due to lack of planning. Failed to recognize and report work overloads in self and others.

Chapter 3

INSTRUCTOR EVALUATIONS

3.1. General. The instructor grading criteria apply to initial, requalification, and all periodic instructor evaluations. The examinee must demonstrate the ability to instruct in a safe and effective manner. Instructor and instrument evaluation/qualification requirements are Tier 2 requirements unless otherwise noted. (T-2)

3.2. Requirements. Evaluate instructors on areas listed in **Table 3.1**. Instructor candidates must be qualified in all areas they will instruct. Initial instructor evaluations may be a stand-alone evaluation or accomplished in conjunction with a periodic qualification/mission evaluation. Accomplish periodic instructor evaluations in conjunction with periodic qualification/mission evaluations IAW AFI 11-202, Vol 2, AFSOC Sup. If able, evaluate instructor candidates instructing actual students. Otherwise, the flight examiner may act as the student. A requalification instructor evaluation is required anytime an instructor is unqualified for any reason to include commander-directed downgrades. (T-2)

3.3. Instrument. Instrument instructor evaluations may be accomplished on any C-130J variant.

3.3.1. Initial/Requalification. Evaluate instructor candidates on instructor performance during a representative sample of unit's basic maneuvers. The examiner will act as student during maneuvers that are considered high-risk. Initial INSTM Instructor evaluations may be accomplished in a properly certified WST IAW **Paragraph 1.9.1** of this instruction.

3.3.1.1. Evaluate instructor pilot candidate's instructional ability during a representative sample of emergency and instrument procedures.

3.3.2. Periodic. Qualified instructors will be evaluated to instructor standards during all periodic evaluations.

3.4. Qualification. Qualification instructor evaluations may be accomplished on any C-130J variant.

3.4.1. Initial/Requalification. Evaluate instructor candidates on instructor performance during a representative sample of unit's basic maneuvers. The examiner will act as student during maneuvers that are considered high risk. Initial QUAL Instructor evaluations may be accomplished in a properly certified WST/ATD/PTT IAW **Paragraph 1.9.1** of this instruction.

3.4.1.1. Evaluate instructor pilot candidate's instructional ability during a representative sample of emergency and qualification procedures. Also, instructor pilot candidates must demonstrate each type of landing applicable to the aircraft from the instructor position. (T-2)

3.4.2. Periodic. Qualified instructors will be evaluated to instructor standards during all periodic evaluations.

3.5. Mission. Mission instructor evaluations will be accomplished in the crew member's primary aircraft/WST/ATD/PTT. Evaluate instructional ability during a representative sample of

unit's mission events. Instructors recently qualified in a special mission are authorized to instruct that mission unless restricted by the OG/CC. (T-3)

3.5.1. Initial/Requalification. Accomplish the initial mission instructor evaluation on a mission that permits accomplishment of all required instructor areas. Initial pilot/Combat Systems Operator (CSO) MSN Instructor evaluations may be accomplished in a properly certified WST IAW **Paragraph 1.9.1** of this instruction.

3.5.2. Periodic. Qualified instructors will be evaluated to instructor standards during all periodic evaluations.

Table 3.1. Instructor Evaluation Grading Areas (All Crew Positions) (T-2).

Area	Grading Areas
20	Mission Preparation
21	Instructional Ability ¹
22	Instructor Knowledge
23	Briefings/Debriefings/Critique
24	Demonstration of Maneuvers/Procedures ¹
25-29	Reserved for future use
Note:	
1. Required in-flight or simulator certified for this event.	

3.6. Instructor Grading Criteria.

3.6.1. Area 20. Mission Preparation.

3.6.1.1. Q. Thoroughly reviewed student's training documentation. Ascertained student's present level of training. Assisted student in pre-mission planning and allowed student time for questions. Correctly prioritized training events. Gave student a clear idea of mission training objectives.

3.6.1.2. Q-. Did not thoroughly review student's training folder or correctly ascertain student's present level of training. Caused student to hurry pre-mission planning. Poorly prioritized training events. Training plan/scenario made poor use of time.

3.6.1.3. U. Did not review student's training folder. Did not ascertain student's present level of training. Did not assist student with pre-mission planning or did not allow time for questions. Did not prioritize training events. Failed to give student a clear idea of mission training objectives, methods, and sequence of events.

3.6.2. Area 21. Instructional Ability.

3.6.2.1. Q. Demonstrated proper instructor ability and communicated effectively. Provided appropriate guidance when necessary. Planned ahead, and provided accurate, effective, and timely instruction. Identified and corrected potentially unsafe maneuvers/situations.

3.6.2.2. Q-. Problems in communication or analysis degraded effectiveness of instruction. Accomplished the above tasks with minor discrepancies that did not affect safety or adversely affect student progress.

3.6.2.3. U. Failed to effectively communicate, provide timely feedback. Performed or taught improper procedures/techniques/tactics to the student. Did not provide corrective action when necessary. Did not plan ahead or anticipate student problems. Did not identify unsafe maneuvers/situations in a timely manner. Made no attempt to instruct.

3.6.3. Area 22. Instructor Knowledge.

3.6.3.1. Q. Demonstrated a high level of knowledge of all applicable aircraft systems, techniques, procedures, missions, publications, and tactics to be performed. Completed appropriate training records accurately. Comments were clear and pertinent.

3.6.3.2. Q-. Minor errors/deficiencies in knowledge of above areas did not affect safety or adversely affect student progress. Minor errors or omissions in training records. Comments were incomplete or slightly unclear.

3.6.3.3. U. Lack of knowledge of publications or procedures seriously detracted from instructor effectiveness. Could not apply knowledge of above areas. Did not complete required forms or records. Comments were invalid, unclear, or did not accurately document performance.

3.6.4. Area 23. Briefings/Debriefings/Critique.

3.6.4.1. Q. Briefings were well organized, accurate, and thorough. Reviewed student's present level of training and defined mission events to be performed. Showed an excellent ability during the critique to reconstruct the flight, offer mission analysis, and provide guidance where appropriate. Training grade reflected the actual performance of the student relative to the standard. Pre-briefed the student's next mission, if required.

3.6.4.2. Q-. Minor errors or omissions in briefings and/or critique did not affect safety or adversely affect student progress.

3.6.4.3. U. Briefings/debriefings were marginal or non-existent; major errors or omissions in briefings/debriefings. Did not review student past performance. Analysis of events or maneuvers was incomplete, inaccurate, or confusing. Training grade did not reflect actual performance of student. Overlooked or omitted major discrepancies. Incomplete pre-briefing of student's next mission, if required.

3.6.5. Area 24. Demonstration of Maneuvers/Procedures.

3.6.5.1. Q. Effectively demonstrated procedures and techniques. Provided concise, meaningful, and timely in-flight commentary. Had thorough knowledge of applicable aircraft systems, procedures, publications, and instructions.

3.6.5.2. Q-. Performed required maneuvers/procedures with minor deviations from prescribed parameters. In-flight commentary was sometimes unclear or poorly timed, interfering with student performance. Discrepancies in the above areas did not adversely affect safety or student progress.

3.6.5.3. U. Failed to properly perform required maneuvers/procedures. Made major procedural errors. Did not provide in-flight commentary and/or in-flight commentary

was incorrect or unsafe. Insufficient knowledge of aircraft systems, procedures, and/or proper source material.

3.6.6. **Areas 25 - 29. Reserved for future use.**

Chapter 4

COMMON GRADING AREAS

4.1. General. The common grading criteria contained in this chapter apply to multiple crew positions on QUAL/MSN evaluations (or as delineated for Pilot QUAL or MSN evaluations). The examinee must satisfactorily demonstrate the ability to perform required duties safely and effectively. This includes appropriate aircraft systems operation IAW applicable technical orders, instructions, and directives. Common grading area requirements are Tier 2 requirements unless otherwise noted. (T-2)

4.2. Requirements. Evaluate all crew members on areas listed in **Table 4.1**. Unless otherwise noted, these events may be accomplished via alternate method.

Table 4.1. Common Grading Areas (applicable crew positions and evaluations) (T-2).

Area	Grading Areas	Pilot		CSO		LM	MCC	ECS
		AD	AL	AD	AL			
30	Flight Plan/Charts ³	X	X	X	X			
31	Airdrop Data/Charts	X		X				
32	Self-Contained Approach (SCA) Data/Charts	X	X	X	X			
33	Fuel Planning ³	X	X	X	X			
34	Weight and Balance ³	X	X	X	X	X		
35	Departure ³	X	X	X	X			
36	Radio Navigation ³	X	X	X	X			
37	Radar Navigation/Weather Avoidance ³	X	X	X	X			
38	Navigation Systems ³	X	X	X	X			
39	High-Altitude Course and Estimated Time of Arrival (ETA) Tolerance ³	X	X	X	X			
40	Low-level Navigation Procedures ²	X		X				
41	Low-level Night Vision Goggle (NVG) Procedures ²	X		X				

Area	Grading Areas	Pilot		CSO		LM	MCC	ECS
42	Low-Level Radar Navigation ²	X		X				
43	Slowdown ²	X	X	X	X			
44	Drop Zone (DZ) Acquisition ²	X		X				
45	DZ Alignment ²	X		X				
46	Airdrop Procedures ²	X		X		X		
47	Escape	X		X				
48	(Time-of-Arrival (TOA)/Time-on-Target (TOT)) Control ²	X	X	X	X			
49	Tactical Planning	X	X	X	X			
50	Defensive Systems	X	X	X	X	X		X
51	In-flight Threat Analysis/Tactics	X	X	X	X	X		X
52	Fuel Management Procedures ³	X	X	X		X		
53	Air-to-air Refueling (AAR) Systems/Procedures ^{2, 4, 7}	X	X	X	X	X		
54	Not Used							
55	Forward Area Refueling Point (FARP) Procedures ⁵	X	X	X	X	X		
56	Not Used							
57	Systems Operations/Knowledge/Limitations ³	X	X	X	X	X	X	X
58	Degraded Operations ²	X	X	X	X	X	X	X
59	Cryptological System Operations	X	X	X	X		X	
60	Authentication/Encode-Decode Procedures	X	X	X	X		X	
61	SA Equipment Knowledge/	X	X	X	X		X	

Area	Grading Areas	Pilot		CSO		LM	MCC	ECS
	Employment							
62	Special Mission Equipment (SME)/ Orbit procedures	X	X	X	X		X	
63-99	Reserved for future use							
<p>Notes: AD – Airdrop, AL – Airland, LM – Loadmaster, ECS – Electronic Communications Systems, MCC – Mission Crew Commander</p> <ol style="list-style-type: none"> 1. Required in-flight. 2. Required in-flight or simulator certified for this event. 3. Only required for QUAL evaluation. 4. Copilots perform copilot duties only. 5. May be evaluated if crew member is certified in this event. 6. Only required on initial/requalification MSN evaluations. 7. Special Mission Qualification event. 								

4.3. Common Grading Criteria. (T-2)

4.3.1. Area 30. Flight Plan/Charts.

4.3.1.1. Q. Completed a flight plan IAW applicable directives. Selected current navigation charts of a proper scale and type of the sortie profile. Charts were constructed IAW current directives. Demonstrated proper manual flight planning procedures, if required.

4.3.1.2. Q-. Flight plan/charts contained minor errors or omissions that would not have adversely affected mission accomplishment.

4.3.1.3. U. Flight plan not accomplished, incomplete, or contained major errors that adversely affected mission accomplishment. Could not demonstrate manual procedures, or failed to review computer generated flight plan.

4.3.2. Area 31. Airdrop Data/Charts.

4.3.2.1. Q. Completed Computed Air Release Point (CARP) IAW applicable directives. Correctly computed and plotted CARP based on the most accurate data available. Demonstrated proper manual CARP computation, if required.

4.3.2.2. Q-. Minor errors or omissions that would not have adversely affected mission accomplishment.

4.3.2.3. U. CARP not accomplished, incomplete, or contained major errors. Could not demonstrate manual procedures, or failed to review computer generated CARP.

4.3.3. Area 32. Self-Contained Approach (SCA) Data/Charts.

4.3.3.1. Q. Completed SCA IAW applicable directives. Correctly computed and plotted SCA based on the most accurate data available.

4.3.3.2. Q-. SCA contained minor errors or omissions that would not have adversely affected mission accomplishment.

4.3.3.3. U. SCA not accomplished, incomplete, or contained major errors.

4.3.4. Area 33. Fuel Planning.

4.3.4.1. Q. Completed a fuel plan IAW applicable directives. Used correct entering arguments (temperature deviation, altitudes, drag index, Gross Weight, cargo weight, etc.) for manual or computer generated fuel plans. Correctly computed an Equal Time Point (ETP), when required.

4.3.4.2. Q-. Fuel plan contained minor errors or omissions that would not have adversely affected mission accomplishment.

4.3.4.3. U. Fuel plan not accomplished, incomplete, or contained major errors. ETP not completed or contained major errors or omissions.

4.3.5. Area 34. Weight and Balance.

4.3.5.1. Q. Correctly entered weight and balance data into the Communication, Navigation, Identification Management Unit (CNI-MU). Manually completed DD Form 365-4, *Weight and Balance Clearance Form F-Transport*, with only minor errors (LMs only).

4.3.5.1.1. Takeoff or landing gross weights were within ± 500 lbs.

4.3.5.1.2. Percent of Mean Aerodynamic Chord (MAC) was within ± 0.5 percent.

4.3.5.1.3. Aircraft gross takeoff limits: Not exceeded.

4.3.5.1.4. Center of gravity limitations: Not exceeded.

4.3.5.2. Q-. Entered weight and balance data into the Communication, Navigation, Identification Management Unit (CNI-MU) with minor errors. Manually completed DD Form 365-4, with errors (LM only).

4.3.5.2.1. Takeoff or landing gross weights were within ± 501 to 1,000 lbs.

4.3.5.2.2. Percent of MAC was within ± 0.6 to 1.0 percent.

4.3.5.2.3. Aircraft gross takeoff limits: Not exceeded.

4.3.5.2.4. Center of gravity limitations: Not exceeded.

4.3.5.3. U. Incorrectly entered weight and balance data into the CNI-MU. Manually completed DD Form 365-4, with errors (LM only).

4.3.5.3.1. Takeoff or landing gross weights exceeded $\pm 1,000$ lbs.

4.3.5.3.2. Percent of MAC exceeded ± 1.0 percent.

4.3.5.3.3. Aircraft gross weight takeoff limits and center of gravity limits exceeded.

4.3.6. Area 35. Departure.

4.3.6.1. Q. Maintained headings, airspeeds, altitudes, and aircraft position throughout departure. Used an instrument departure procedure and/or appropriate scale departure area chart. Provided headings, estimated time of arrival, and other required information in a timely manner. Monitored appropriate radios and clearances to ensure crew compliance. Provided updated information when the clearance caused a change in the planned departure. Ensured terrain clearance during departure by use of all available aids and the area chart.

4.3.6.2. Q-. Maintained aircraft position, but slow to provide headings, ETA, or other required information. Performance did not degrade mission accomplishment or compromise flight safety.

4.3.6.3. U. Did not maintain departure headings, airspeeds, or altitudes. Unaware of aircraft position and unable to provide updated information when required. Did not use an instrument departure procedure and/or an appropriate scale departure area chart. Allowed major deviations that degraded mission accomplishment or compromised safety. Did not ensure terrain clearance during the departure. No area chart available.

4.3.7. Area 36. Radio Navigation.

4.3.7.1. Q. Accurately tuned (if capable), identified, and interpreted readings of en route/terminal area Tactical Air Navigation (TACAN), Very High Frequency Omni-Directional Range (VOR) or Non-Directional Beacon (NDB).

4.3.7.2. Q-. Better use of radio aids could have enhanced navigation. Displayed weakness in fixing or plotting procedures.

4.3.7.3. U. Failed to accurately tune (if capable) and identify en route radio aids.

4.3.8. Area 37. Radar Navigation/Weather Avoidance.

4.3.8.1. Q. Demonstrated thorough knowledge and understanding of radar equipment. Used correct procedures for radar operation and weather avoidance. Maintained proper distance from adverse weather.

4.3.8.2. Q-. Demonstrated adequate knowledge of equipment, but occasionally used improper operating procedures. Did not update radar/weather analysis while avoiding known weather. Had difficulty identifying radar returns. Weather avoidance was safe with minor deviation from prescribed procedures.

4.3.8.3. U. Displayed unsatisfactory knowledge of radar equipment. Used improper operating procedures that were potentially harmful to system components. Failed to correctly interpret scope returns. Displayed unsatisfactory knowledge of weather avoidance procedures.

4.3.9. Area 38. Navigation Systems.

4.3.9.1. Q. Demonstrated thorough knowledge of onboard navigation system operating procedures. Effectively used navigation systems to direct the aircraft and update system as required.

4.3.9.2. Q-. Demonstrated basic knowledge of onboard navigation systems. Made minor errors in operation/interpretation of navigation system data. More selective updating could have increased system effectiveness.

4.3.9.3. U. Displayed inadequate knowledge of onboard navigation system procedures. Improper operation procedures could have resulted in damage to equipment or affected mission accomplishment. Failed to update or correctly interpret navigation system data.

4.3.10. Area 39. High-Altitude Course and ETA Tolerance.

4.3.10.1. Q. Unless required to deviate for weather or required by Air Traffic Control, remained within 5 nautical miles (nm) of course centerline, or within tolerances specified for Required Navigation Performance (RNP) airspace (if applicable), whichever is less. ETA/Revised ETA (RETA) were within 2 minutes of actual times of arrival (ATA).

4.3.10.2. Q-. Remained within 10 nm of course centerline. ETA/RETA were within 3 minutes of ATA.

4.3.10.3. U. Exceeded Q- criteria or exceeded RNP requirement. Evaluator had to alter aircraft heading to remain within course tolerance or clear special use airspace.

4.3.11. **Area 40. Low-Level Navigation Procedures.**

4.3.11.1. Q. Certain of exact aircraft position. Remained within 1 nm of course centerline or planned deviation (**Exceptions:** Threat avoidance, weather deviation, air traffic control assigned heading, time control deviations, or other unplanned, required deviations). Thorough knowledge of en route time status in relation to objective area. Complied with all altitude and airspace restrictions.

4.3.11.2. Q-. Uncertain of exact aircraft position due to marginal navigational procedures. Deviated more than 1 nm from course (unplanned) and failed to modify vertical/horizontal profile as needed. Better awareness of required timing events or en route time status could have avoided excessive, unplanned maneuvering.

4.3.11.3. U. Exceeded 3 nm during en route navigation without the above exceptions. Failed to maintain position awareness throughout most of the route. Failed to accurately assess required timing or unaware of mission time status, jeopardizing mission accomplishment. Violated airspace restrictions. Poor airspeed control resulted in numerous or extreme airspeed adjustment. Descended below minimum altitude restrictions.

4.3.12. **Area 41. Low-Level – Night Vision Goggle Procedures.**

4.3.12.1. Q. Planned and flew a route to minimize risk to aircraft and crew for a given mission using NVG procedures IAW governing directives and appropriate TTP. Consistently updated crew with controlling terrain, reference altitudes, and start climb points. Avoided excessive or numerous low-altitude warnings. Appropriately assisted pilot flying/CSO with TOT/TOA control and energy management. Flew appropriate profile for terrain and environmental conditions.

4.3.12.2. Q-. Had numerous unplanned low-altitude warnings but no significant compromise to safety. Minor deviations from TTP, altitude, and airspeed profile.

4.3.12.3. U. Had excessive amount and/or excessively low-altitude warnings. Major/unsafe deviations from established directives and appropriate TTP.

4.3.13. **Area 42. Low-Level Radar Navigation.**

4.3.13.1. Q. Effectively tuned and employed radar to identify aircraft hazards throughout the flight. Ensured aircraft was terrain masked as necessary. Properly interpreted radar and effectively communicated information with clear/concise terminology to ensure smooth/safe low-level navigation. Demonstrated ability to accurately identify radar targets and analyze aircraft position based on these targets. Effectively used radar to update aircraft position, both during en route low-level and during terminal areas DZ/Landing Zone operations.

4.3.13.2. Q-. Improper radar tuning/interpretation caused confusion during low-level navigation but did not jeopardize safety. Failed to effectively use terrain to mask aircraft from threats. Did not effectively use radar targets to analyze aircraft position, resulting in mission degradation.

4.3.13.3. U. Failed to tune radar sufficiently for safe low-level flight. Failed to identify hazardous terrain in the aircraft flight path or directed a turn towards high terrain without directing a climb. Jeopardized mission success due to inaccuracies in system caused by failure to analyze or update aircraft position using radar targets.

4.3.14. Area 43. Slowdown.

4.3.14.1. Q. Thorough knowledge of slowdown procedures. Complied with all published/briefed procedures.

4.3.14.2. Q-. Minor deviations which did not affect mission accomplishment

4.3.14.3. U. Major deviations adversely affected mission accomplishment

4.3.15. Area 44. Drop Zone Acquisition.

4.3.15.1. Q. Timely identification of the DZ allowed for a smooth approach to the objective area.

4.3.15.2. Q-. Late identification of the DZ caused an abrupt change in procedures or course into the objective area, but did not affect mission accomplishment.

4.3.15.3. U. Did not identify the DZ or late identification negatively affected mission accomplishment.

4.3.16. Area 45. DZ Alignment.

4.3.16.1. Q. Directed the aircraft to an optimum DZ alignment on run-in through escape. Clearly communicated desired aircraft position to the crew.

4.3.16.2. Q-. Alignment was satisfactory but tended to angle. Slow in directing aircraft to establish/maintain effective DZ alignment, but did not adversely impact mission accomplishment.

4.3.16.3. U. Failed to establish effective DZ alignment that contributed to an unsuccessful airdrop/no-drop condition.

4.3.17. Area 46. Airdrop Procedures.

4.3.17.1. Q. Accurately used all available data to accomplish airdrop within the following Circular Error (CE): Heavy equipment (HE), Personnel, Standard Airdrop Training Bundle (SATB), door/ramp bundles, or Container Delivery System (CDS): 300

meters. For all airdrops except CDS above 800' above ground level (AGL), add 15 meters for each 100' above 800' to a maximum total CE of 600 meters. For CDS airdrops above 600' AGL add 20 meters for each 100' above 600' to a maximum total CE of 500 meters. Complied with all applicable directives. Aircraft configuration was correct. Scoring criteria is not applicable to loadmasters unless they are responsible for exceeding drop score limits indicated above.

4.3.17.1.1. Airspeed: ± 5 knots.

4.3.17.1.2. Altitude: ± 50 feet.

4.3.17.2. Q-. Failed to use all data available to ensure the most accurate drop. Had minor deviations in published/briefed procedures.

4.3.17.2.1. Airspeed: $+ 10/-10$ knots.

4.3.17.2.2. Altitude: $+ 100/- 50$ feet.

4.3.17.3. U. Incorrect procedures led to a drop score exceeding 300 meters. Had major deviations to published/briefed procedures which adversely affected mission accomplishment. Mission not accomplished due to aircraft configuration, poor DZ acquisition, alignment, or deviation from procedures, caused by pilot error or omission. Did not recognize a no-drop situation.

4.3.18. Area 47. Escape.

4.3.18.1. Q. Escape executed IAW published or briefed procedures.

4.3.18.2. Q-. Minor errors in escape procedures that did not affect mission accomplishment.

4.3.18.3. U. Major deviations from procedures that negatively affected mission accomplishment, formation integrity, or flight safety.

4.3.19. Area 48. Time-of-Arrival/On-Target Control.

4.3.19.1. Q. Accurately used all available data to arrive at the objective on time. Recomputed TOT/TOA in-flight as necessary.

4.3.19.2. Q-. Arrived at the objective on time but used excessive timing maneuvers or airspeed changes. Minor deviations in recomputing TOA/TOT in-flight as necessary.

4.3.19.3. U. Exceeded ± 30 seconds for airdrop/SCA, ± 60 seconds for AAR. Could not accurately establish new TOT/TOA while airborne, when required.

4.3.20. Area 49. Tactical Planning.

4.3.20.1. Q. Demonstrated thorough knowledge of necessary defensive systems/tactics applicable to the mission. Able to plot threats and apply appropriate tactics to avoid them or minimize exposure to them.

4.3.20.2. Q-. Was unfamiliar with the appropriate tactic for a given scenario. Made minor errors in plotting and avoiding a given threat.

4.3.20.3. U. Major errors in tactics selection would have resulted in an unsuccessful mission. Was unable to plot and avoid a given threat. Failed to ensure mission effectiveness by not adequately analyzing or degrading threat(s).

4.3.21. Area 50. Defensive Systems Knowledge/Employment.

4.3.21.1. Q. Properly programmed defensive equipment for a given threat. Correctly interpreted threat information, deployed expendables as necessary, and directed aircraft maneuvers in a timely manner.

4.3.21.2. Q-. Minor errors in programming defensive systems. Was slow to interpret threat information, deploy expendables, or direct aircraft maneuvers. Successfully defeated threat but could have used a better tactic for a given scenario.

4.3.21.3. U. Failed to program/arm defensive equipment as necessary. Used wrong tactic for a given threat. Knowledge of defensive systems was unsatisfactory.

4.3.22. Area 51. In-Flight Threat Analysis/Tactics.

4.3.22.1. Q. Made timely and appropriate inputs to crew during mission. Able to plot threats in-flight, and formulate a plan of action to avoid/defeat a given threat. Executed the proper evasive maneuver in a timely manner when given an immediate threat. Adequately analyzed and defeated all threats ensuring effective mission accomplishment. Aware of appropriate tactics to avoid threats and exposure. Loadmaster or ECS explained proper scanning technique from the troop doors and ramp and door.

4.3.22.2. Q-. Was unfamiliar with the appropriate tactic for a given scenario. Did not make timely inputs to crew during threat engagement. Made minor errors in plotting and avoiding a given threat. Was slow to interpret threat information, deploy expendables, or direct aircraft maneuvers which did not compromise mission accomplishment. Loadmaster or ECS had limited knowledge of proper scanning techniques.

4.3.22.3. U. Did not avoid lethal range of given threat system. Did not execute an effective evasive maneuver when given an immediate threat. Failed to ensure mission effectiveness by not adequately analyzing or degrading threat(s). Not aware of appropriate tactics for specific threats or terrain. Loadmaster or ECS had inadequate knowledge of proper scanning technique.

4.3.23. Area 52. Fuel Management Procedures.

4.3.23.1. Q. Maintained fuel management IAW directives. Kept crew advised of fuel status. Demonstrated a complete knowledge of aircraft fuel system and operating limitations both with and without reference to the flight manual and/or available aids.

4.3.23.2. Q-. Adequate fuel management with minor computation errors noted. Did not adequately update the crew on fuel status. Limited knowledge of aircraft fuel system operations and limitations in some areas. Used individual technique instead of procedures and was unaware of differences.

4.3.23.3. U. Failed to demonstrate an understanding of fuel management procedures. Fuel computations not accomplished or contained significant errors. Failed to inform the crew of fuel status. Unsatisfactory fuel system knowledge. Failed to demonstrate or explain the procedures for aircraft fuel system operations with or without reference to the flight manual and/or available aids.

4.3.24. Area 53. Air-To-Air Refueling Systems/Procedures.

4.3.24.1. Q. Effectively accomplished and was fully knowledgeable of air-to-air refueling operations and procedures. Properly completed refueling portion of fuel planning as applicable to the mission. Demonstrated effective/appropriate use of radio communications for briefed emissions control level. Performed all pre-refueling, refueling, and post-refueling checks in accordance with applicable checklist and directives. Satisfactorily managed/monitored fuel systems and onload distribution in accordance with procedures and techniques outlined in the flight manual, checklist, and other directives. Correctly identified and located system components, explained and related their functions, and specified the limitations. Stated correct system status and its effect on related systems. Recognized malfunctions and applied proper corrective action(s).

4.3.24.1.1. Additional Pilot Criteria. Expeditiously established and maintained aircraft proper position. Positive/smooth aircraft control. Maintained the contact position for 10 minutes (at least 5 minutes continuous) with no more than one pilot-induced disconnect.

4.3.24.2. Q-. Limited knowledge of AAR operations and procedures. Performed pre-refueling, refueling, and post-refueling checks with some minor deviations/omissions that did not affect successful accomplishment of air-to-air refueling. Limited management/monitoring of fuel systems and onload distribution in accordance with procedures and techniques outlined in the flight manual, checklist, and other directives. Limited knowledge of identification, location, functions, and limitations of system components. Stated correct system status, but could not determine its effect on related systems. Delay in recognizing malfunctions and/or applying proper corrective action(s). Minor errors in the refueling portion of fuel planning as applicable to the mission.

4.3.24.2.1. Additional Pilot Criteria. Slow to recognize and apply needed corrections to establish and maintain proper position. Aircraft control was not always positive and smooth, but adequate. Accomplished published/directed procedures with deviations or omissions that did not affect the successful completion of the AAR. Maintained the contact position for at least 10 minutes with no more than one pilot-induced disconnect. If evaluating in the simulator no more than two pilot-induced disconnects are permitted.

4.3.24.3. U. Displayed lack of knowledge or familiarity with procedures to the extent that AAR was or could have been jeopardized. Failed rendezvous as a result of improper procedures. Inadequate knowledge of fuel system management or exceeded wing fuel balance limitations. Could not identify, locate, or relate systems functions and limitations. Could not determine status of system or its effect on related system. Failed to recognize malfunctions and/or apply corrective action(s).

4.3.24.3.1. Additional Pilot Criteria. Spent excessive time in trail. Aircraft control in the pre-contact/refueling position was erratic or unsafe. Made deviations or omissions that affected flight safety and/or the successful completion of the AAR. Performance caused more than two pilot-induced disconnects and/or delayed mission accomplishment.

4.3.25. **Area 54. Not Used.**

4.3.26. Area 55. Forward Area Refueling Point Procedures (FARP).

4.3.26.1. Q. Satisfactorily demonstrated knowledge of FARP duties, equipment, and emergency procedures. Exercised sound crew coordination principles, and situational awareness. Loadmasters satisfactorily performed all items associated with Hot Refueling Supervisor (HRS) or Panel Operator (PO) duties.

4.3.26.2. Q-. Minor deviations in knowledge associated with FARP duties and equipment. Loadmasters demonstrated minor omissions in procedures during performance of HRS or PO duties.

4.3.26.3. U. Lacks adequate knowledge to safely perform FARP duties, FARP equipment, and/or emergency procedures. Could not exercise sound crew coordination and/or situational awareness. Loadmasters could not perform HRS or PO duties to the extent of creating unnecessary delays and/or jeopardizing FARP completion.

4.3.27. Area 56. Not Used.**4.3.28. Area 57. Systems Operation/Knowledge/Limitations.**

4.3.28.1. Q. Demonstrated/explained a complete knowledge of aircraft and/or mission systems operations/limitations and proper procedural use of systems.

4.3.28.2. Q-. Marginal knowledge of aircraft and/or mission systems operations and limitations in some areas. Used individual technique instead of established procedures and was unaware of differences.

4.3.28.3. U. Unsatisfactory systems knowledge. Failed to demonstrate/explain the procedures for aircraft and/or mission system operations.

4.3.29. Area 58. Degraded Operations.

4.3.29.1. Q. Demonstrated ability to react to loss of specific equipment and systems before and during flight. Knew operations restrictions associated with degraded systems. Accurately recommend correct course of action, based on particular loss.

4.3.29.2. Q-. Able to react to some equipment or systems failures which did not significantly contribute to mission degradation or failure.

4.3.29.3. U. Failed to recognize and react to system or equipment failure which affected ability for safe aircraft operation or significant mission degradation or failure.

4.3.30. Area 59. Cryptological System Operations.

4.3.30.1. Q. Familiar with applicable cryptological systems. Full knowledge of keying devices and materials. With use of a guide, keyed all systems without error.

4.3.30.2. Q-. Limited knowledge of applicable cryptological systems, keying devices, and materials. With use of a guide, keyed most systems with minor error.

4.3.30.3. U. Lacked knowledge of applicable cryptological systems, keying devices, or keying materials. Failed to key systems.

4.3.31. Area 60. Authentication/Encode-Decode Procedures.

4.3.31.1. Q. Thorough knowledge of authentication/encode-decode materials and procedures. Correct/timely authentication procedures. Correct/timely encode-decode

procedures when required. Correct authentication/encode-decode materials were always readily at hand.

4.3.31.2. Q-. Limited knowledge of authentication/encode-decode materials and procedures which did not affect mission accomplishment. Correct but slow authentication which did not affect mission accomplishment. Correct but slow encode-decode procedures which did not affect mission accomplishment.

4.3.31.3. U. Unsatisfactory knowledge of authentication/encode-decode materials and procedures. Incorrect or excessively slow authentication. Failed to encode-decode when required. Authentication/encode-decode materials were not readily available or were incorrect.

4.3.32. Area 61. Situational Awareness (SA) Equipment Knowledge/Employment.

4.3.32.1. Q. Correlated intelligence and operations inputs via any number of SA devices (i.e., SAMS-ESA, KuSS, AFTRS, moving map, MiRC, etc.) to stay abreast of the tactical situation. Able to effectively key and operate equipment. Analyzed incoming information and disseminated appropriate data in a timely manner.

4.3.32.2. Q-. Did not completely correlate operations and intelligence inputs to remain abreast of the tactical situation. Disseminated critical information but caused some delays.

4.3.32.3. U. Failed to remain sufficiently abreast of the tactical situation that impaired effective mission accomplishment or unable to key or operate equipment. Failed to pass critical data to operators in need of the information.

4.3.33. Area 62. Orbit/Special Mission Equipment (SME) Procedures.

4.3.33.1. Q. Understands and uses proper procedures for SME operation. Abides by proper technical order limitation for the SME equipment and orbital procedures.

4.3.33.2. Q-. Slow to use proper procedures for SME operation. Fair knowledge of technical order limitation for the SME equipment and orbital procedures.

4.3.33.3. U. Failed to use proper procedures for SME operation. Unable to recite technical order limitations for the SME equipment and orbital procedures.

4.3.34. Area 63-99. Reserved for Future Use.

Chapter 5

PILOT/COPILOT EVALUATIONS

5.1. General. All pilots and copilots require an INSTM and QUAL evaluation. MSN qualified pilots/copilots require a separate MSN evaluation. The MSN evaluation may occur on the same sortie as the INSTM/QUAL evaluation. Copilots will be evaluated to the same area standards as pilots unless specified otherwise. Copilot crew coordination will not include duties and responsibilities expected of an aircraft commander. Instructors will demonstrate instructor duties on all periodic evaluations. (T-2)

5.2. Requirements. Refer to [Chapter 2](#) for general, [Chapter 3](#) for instructor, and [Chapter 4](#) for common grading areas and criteria. Pilot/copilot required areas and criteria follow in this chapter. Unless otherwise noted, these events may be accomplished via alternate method. All requirements for pilot/copilot instructor, instrument, mission, special mission evaluations and grading criteria are Tier 2 requirements unless otherwise noted. (T-2)

5.3. Instrument. See [Table 5.1](#) for required INSTM evaluation areas. Requisites (prerequisites for initial/re-qualification evaluations) include Instrument Refresher Course (IRC). The INSTM evaluation will be conducted in-flight or in a WST. (T-2)

5.3.1. The evaluation profile will include: one precision approach; one non-precision approach; one Category (CAT) II approach (if qualified); holding or procedure turn; circling pattern (traffic and weather permitting); missed approach. Do not combine the precision and CAT II approaches. One of the approaches will be flown without use of the autopilot and auto throttles. (T-2)

5.3.1.1. Initial CAT II qualification evaluations require an approach to a missed approach and an approach to a landing. CAT II procedures may be evaluated on a CAT I approach.

5.3.2. Initial/Requalification. Individuals with an Instrument Qualification on any C-130J variant are considered instrument qualified on any other C-130J variant after completion of appropriate differences training.

5.3.3. Periodic. Evaluations may be conducted on any C-130J variant, if the examinee is qualified/difference trained in the aircraft.

5.4. Qualification. See [Tables 4.1](#) and [5.1](#) for required QUAL evaluation areas. Requisites (prerequisites for initial/re-qualification evaluations) include Qualification Open and Closed Book examinations (or Formal School End of Course examinations), EPE, and Boldface examination. This evaluation will be accomplished in combination with an instrument evaluation. The QUAL evaluation will be conducted in-flight or in a WST. (T-2)

5.4.1. The evaluation profile will include: Visual Flight Rules (VFR) pattern; 100%, 50%, and 0% flap landing (only aircraft commanders/instructors will accomplish 0% flap landings; touch-and-go procedures; simulated engine-out go-around, and simulated engine-out landing). (T-2)

5.4.2. Initial/Requalification. Individuals with an Instrument Qualification on a C-130J variant may perform tasks associated with that instrument qualification on any other C-130J variant after completion of differences training.

5.4.3. Periodic. Evaluations may be conducted on any C-130J variant, if the examinee is qualified/difference trained in the aircraft.

5.4.3.1. Copilot. Evaluate appropriate areas from the right seat.

5.4.3.2. Aircraft commander. Evaluate appropriate areas from the left seat.

5.5. Mission. See **Tables 4.1** and **5.2** for MSN evaluation areas and subparagraph below for requirements. Requisites (prerequisites for initial/re-qualification evaluations) include Mission Open and Closed Book examinations and EPE. (T-2)

5.5.1. Initial/Requalification (airland). The mission profile will include an airland operation (combat offload, or engine-running offload (ERO)), defensive tactics/threat avoidance maneuver, tactical recovery/SCA, maximum effort takeoff and landing (see **Paragraph 5.5.3**), night vision device (NVD) takeoff and landing, and mission systems operations with MCC and ECS crew positions on board. Mission systems operations may be ground evaluated if not accomplished in-flight. TOT/TOA will be evaluated to one of the events above. (T-2)

5.5.1.1. Periodic (airland). The mission profile will include an airland operation (combat offload, or ERO), defensive tactics/threat avoidance maneuver, tactical recovery/SCA, maximum effort takeoff and landing (see **Paragraph 5.5.3**), night vision device (NVD) takeoff and landing, and may also include mission systems operations with MCC and ECS crew positions on board and/or air-to-air refueling. Mission systems operations and Air-to-air refueling may be ground evaluated if not accomplished in-flight. TOT/TOA will be evaluated to one of the events above. (T-2)

5.5.2. Initial/Requalification (airdrop). The mission profile will include a NVG low-level of at least 30 minutes, CARP airdrop (actual or SATB), defensive tactics/threat avoidance maneuvers, tactical recovery/SCA, maximum effort takeoff and landing (see **Paragraph 5.5.4**), NVD takeoff and landing. TOT/TOA will be evaluated to one of the events above. Air-to-air refueling will be ground evaluated if not accomplished in-flight. Mission systems operations will be ground evaluated. (T-2)

5.5.2.1. Periodic (airdrop). For the evaluation profile comply with **Paragraph 5.5.2** as appropriate. (T-2)

5.5.3. Maximum Effort (ME) Takeoff and Landing.

5.5.3.1. Initial/Requalification. The evaluation profile will include mission planning, briefings, and debriefings. The approach and landing must be accomplished to an actual LZ (deviations to LZ criteria may be determined by OGV on a case by case basis). The maximum effort takeoff may be accomplished on a normal sized runway. (T-3)

5.5.3.2. Maximum Effort landings may be evaluated in the WST. For mission evaluations, copilots accomplish the maximum effort takeoff and landing evaluation by demonstrating the duties required in the copilot position. As a minimum, thoroughly debrief/brief copilots on ME procedures. **Note:** One go-around is permitted, provided the aircraft does not touchdown short of the zone

5.6. Special Mission Events. (T-2)

5.6.1. Air-to-air Refueling. Reference [Chapter 4](#) Common Grading areas for more additional information.

5.6.2. Initial/Requalification. The evaluation profile will include a rendezvous, join-up, contact, and breakaway. (T-2)

5.6.2.1. Air-to-air Refueling qualification is only required in one C-130 MDS. Once AAR qualified, AAR may be conducted in any AAR capable C-130 variant in which the pilot is qualified/differences trained.

Table 5.1. Pilot/Copilot INSTM/QUAL Grading Areas (T-2).

Area	Grading Areas	QUAL	INSTM
100	Ground Operations/Taxi ¹	X	
101	Takeoff ¹	X	
102	Instrument Departure ¹		X
103	En route Navigation/Use of Navigational Aids (NAVAID) ¹		X
104	Descent/Arrival Procedures ¹		X
105	Holding/Procedure Turn ¹		X
106	Precision Approach (PA) or Instrument Landing System (ILS) ⁴		X
106a	Precision Approach Radar (PAR) ^{1,3}		X
106b	Instrument Landing System ¹		X
106c	CAT II ILS ¹		X
106d	Integrated Precision Radar Approach (IPRA) ¹		X
107	Non-precision Approach (Tactical Air Navigation (TACAN), Very High Frequency Omni-Directional Range Station (VOR), Localizer (LOC), Non-Directional Beacon (NDB), Airport Surveillance Radar (ASR)) ⁴		X
107a	TACAN ¹		X
107b	VOR ¹		X
107c	LOC ¹		X
107d	NDB ¹		X
107e	ASR ^{1,3,4}		X
108	Circling/Side-Step Approach ¹		X

Area	Grading Areas	QUAL	INSTM
109	Engine-Out Approach ^{1, 2}		X
110	Missed Approach/Go-Around ¹		X
111	Engine-Out Go-Around ^{1, 2}	X	
112	VFR Pattern ¹	X	
113	Final Approach and Landing ¹	X	
113a	100 Percent Flap Landing ¹	X	
113b	50 Percent Flap Landing ¹	X	
113c	No Flap Landing ^{1, 2, 5}	X	
113d	Engine-Out Landing ^{1, 2}	X	
113e	Touch-and-Go Landing ¹	X	
114	Fuel Conservation	X	
115	Systems Operations/Knowledge/Limitations/National Airspace System (NAS)	X	X
116	Automation ¹	X	X
117-149	Reserved for future use		

Notes:

1. Required in-flight or simulator certified for this event.
2. Aircraft commanders/instructors only.
3. Only one of the two required approaches may be controller directed (PAR/ASR).
4. Do not evaluate a precision approach (PAR) as the only precision approach when the non-precision approach evaluated is the airport surveillance radar (ASR). Do not evaluate an ASR as the only non-precision approach when the precision approach evaluated is the PAR.
5. 0% flap landings may be omitted if conditions preclude accomplishing this event. If not accomplished in-flight, it must be debriefed following the flight evaluation.

Table 5.2. Pilot/Copilot MSN Qualification Grading Areas (T-2).

Area	Grading Areas	MSN
150	Tactical Recovery (SCA, overhead, downwind, random shallow/steep, etc.) ¹	X
151	Maximum Effort Takeoff ^{1, 2, 3}	X
152	Maximum Effort Landing ^{1, 2, 3}	X
153	NVG Airland ¹	X

Area	Grading Areas	MSN
154-199	Reserved for future use	
Note: 1. Required in-flight. 2. Aircraft commanders/instructors only. 3. Copilots perform copilot duties only.		

Table 5.3. General Criteria (T-2).

Q	Altitude	± 200 feet
	Airspeed	+10/- 5 knots (but not less than Vmca)
	Course	± 5 degrees/3 nm (whichever is greater)
	Arc	± 2 nm
Q-	Altitude	± 300 feet
	Airspeed	+15/- 10 knots (but not less than Vmca)
	Course	± 10 degrees/5 nm (whichever is greater)
	Arc	± 3 nm
U		Exceeded Q- limits

5.7. Grading Criteria. The following subparagraphs contain grading criteria for the areas listed in **Tables 5.1** and **5.2**. The general criteria in **Table 5.3** apply during all phases of flight except as noted for specific events and instrument final approaches. (T-2)

5.7.1. Area 100. Ground Operations/Taxi.

5.7.1.1. Q. Established and adhered to station, start engine, taxi, and takeoff time to assure thorough preflight, check of personal equipment, crew/passenger briefings, etc. Accurately determined readiness of aircraft for flight. Completed all systems preflight/postflight inspections, and checklists IAW flight manual. Conducted taxi operations according to flight manual, AFI 11-218, *Aircraft Operations and Movement on the Ground*, and local procedures.

5.7.1.2. Q-. Same as above except for minor procedural deviations that did not detract from mission effectiveness.

5.7.1.3. U. Failed to accurately determine readiness of aircraft for flight. Major deviations in procedure that would preclude safe mission accomplishment. Crew errors directly contributed to a late takeoff that degraded the mission or made it ineffective. Omitted checklist items.

5.7.2. Area 101. Takeoff.

5.7.2.1. Q. Maintained smooth, positive aircraft control throughout takeoff. Performed takeoff in accordance with flight manual and as published/directed.

5.7.2.2. Q-. Minor deviations from published procedures without affecting safety of flight. Aircraft control was safe but not consistently smooth and positive. Hesitant in application of procedures or corrections.

5.7.2.3. U. Takeoff was potentially dangerous. Exceeded aircraft/systems limitations. Failed to establish proper climb attitude. Excessive deviation from intended flight path. Violated flight manual procedures. Exceeded Q- criteria.

5.7.3. Area 102. Instrument Departure.

5.7.3.1. Q. Performed departure IAW published procedures and directives. Complied with all restrictions or controlling agency instructions. Made all required reports. Applied course/heading corrections promptly. Demonstrated smooth, positive aircraft control.

5.7.3.2. Q-. Minor deviations in navigation occurred during departure. Slow to comply with controlling agency instructions or unsure of reporting requirements. Slow to apply course/heading corrections. Aircraft control was not consistently smooth and positive.

5.7.3.3. U. Instrument departure was not in accordance with technical orders, directives, or published procedures. Failed to comply with published/directed departure, or controlling agency instructions. Accepted an inaccurate clearance. Aircraft control was erratic.

5.7.4. Area 103. En Route Navigation/Use of NAVAIDS.

5.7.4.1. Q. Able to navigate using all available means. Used appropriate navigation procedures. Ensured NAVAIDS were properly tuned, identified, and monitored. Complied with clearance instructions. Aware of position at all times. Remained within the confines of assigned airspace. Fix to fix within 1½ nm (if applicable).

5.7.4.2. Q-. Minor errors in procedures/use of navigation equipment. Some deviations in tuning, identifying, and monitoring NAVAIDS were observed. Slow to comply with clearance instructions. Had some difficulty in establishing exact position and course. Slow to adjust for deviations in time and course. Fix to fix within 3 nm (if applicable).

5.7.4.3. U. Major errors in procedures/use of navigation equipment. Did not ensure NAVAIDS were tuned, identified, and monitored. Could not establish position. Failed to recognize checkpoints or adjust for deviations in time and course. Did not remain within the confines of assigned airspace. Exceeded Q- criteria.

5.7.5. Area 104. Descent/Arrival Procedures.

5.7.5.1. Q. Performed descent as directed. Complied with all flight manual, controller issued, or standard terminal arrival (STAR) restrictions in a proficient manner. Accomplished all required checks.

5.7.5.2. Q-. Performed descent as directed with minor deviations that did not compromise mission safety. Slow to comply with controller instructions and accomplish required checks.

5.7.5.3. U. Performed descent with major deviations. Failed to follow controller instructions or made erratic corrections. Exceeded flight manual limitations or did not accomplish required checks.

5.7.6. Area 105. Holding/Procedure Turn (PT).

5.7.6.1. Q. Performed entry and holding in accordance with published procedures and directives. Holding pattern limits exceeded by not more than:

5.7.6.1.1. VOR Leg timing: ± 15 seconds.

5.7.6.1.2. TACAN: ± 2 nm.

5.7.6.2. Q-. Performed entry and holding procedures with minor deviations. Holding pattern limit exceeded by not more than:

5.7.6.2.1. VOR Leg timing: ± 30 seconds.

5.7.6.2.2. TACAN: ± 3 nm.

5.7.6.3. U. Holding was not in accordance with technical orders, directives, or published procedures. Exceeded Q- holding pattern limits.

5.7.7. Area 106. Precision Approach (PAR, ILS). Note: Use the following criteria as general tolerances for airspeed, altitude, heading, glide slope, and azimuth. Airspeed tolerances are based on computed approach speed.

5.7.7.1. Q.

5.7.7.1.1. Airspeed: $+10/-5$ KIAS.

5.7.7.1.2. Heading: ± 5 degrees of controller's instructions (PAR).

5.7.7.1.3. Glide slope: Within one dot (ILS).

5.7.7.1.4. Azimuth: Within one dot (ILS).

5.7.7.2. Q-.

5.7.7.2.1. Airspeed: $+15/-10$ KIAS.

5.7.7.2.2. Heading: ± 10 degrees of controller's instructions (PAR).

5.7.7.2.3. Glide slope: Within one dot low, two dots high (ILS), after runway was in sight examinee momentarily deviated below glide path but corrected for a safe landing ("duck under").

5.7.7.2.4. Azimuth: Within two dots (ILS).

5.7.7.3. U.

5.7.7.3.1. Exceeded Q- criteria.

5.7.7.4. Subarea 106a. Precision Approach Radar

5.7.7.4.1. Q. Approach was IAW flight manual, directives, and published procedures. Smooth and timely response to controller's instructions. Established initial glide path and maintained glide slope with minor deviations. Complied with decision height. Position would have permitted a safe landing. Elevation did not exceed slightly above or slightly below glide path.

5.7.7.4.2. Q-. Performed approach with minor deviations. Slow to respond to controller's instructions and make corrections. Position would have permitted a safe landing. Elevation did not exceed well above or well below glide path.

5.7.7.4.3. U. Approach not IAW flight manual, directives, or published procedures. Erratic course and glide slope corrections. Did not make corrections or react to controller's instructions. Did not comply with decision height and/or position would not have permitted a safe landing. Exceeded Q- limits.

5.7.7.5. Subarea 106b. Instrument Landing System.

5.7.7.5.1. Q. Approach was IAW flight manual, directives, and published procedures. Smooth and timely corrections to azimuth and glide slope. Complied with decision height and position permitted a safe landing.

5.7.7.5.2. Q-. Performed procedures with minor deviations. Slow to make corrections or initiate procedures. Slow to comply with decision height. Position would have permitted a safe landing.

5.7.7.5.3. U. Approach not IAW flight manual, directives, or published procedures. Erratic course/glide slope corrections. Did not comply with decision height or position would not have permitted a safe landing. Exceeded Q- criteria.

5.7.7.6. Subarea 106c. Category II Instrument Landing System.

5.7.7.6.1. Use same criteria as sub-area 106b.

5.7.7.7. Subarea 106d. Integrated Precision Radar Approach (IPRA)

5.7.7.7.1. Use same criteria as sub-area 106b.

5.7.8. Area 107. Non-precision Approach (TAC, VOR, LOC, NDB, ASR). **Note:**
Use the following criteria for Areas 107a-107e.

5.7.8.1. Q. Approach was IAW flight manual, directives, and published procedures. Used appropriate descent rate to arrive at Minimum Descent Altitude (MDA) at or before Visual Descent Point (VDP). Position permitted a safe landing. Smooth and timely response to controller's instructions (ASR).

5.7.8.1.1. Airspeed: +10/-5 knots.

5.7.8.1.2. Heading: ± 5 degrees (ASR).

5.7.8.1.3. Course: ± 5 degrees at Missed Approach Point (MAP) (TAC, VOR, NDB), less than one dot deflection (LOC).

5.7.8.1.4. MDA: +100/-0 feet.

5.7.8.1.5. MAP: Timing computed/adjusted within 10 seconds or distance within $\pm .5$ nm.

5.7.8.2. Q-. Performed approach with minor deviations. Arrived at MDA at or before the MAP, but past the VDP. Position would have permitted a safe landing. Slow to respond to controller's instructions and make corrections (ASR).

5.7.8.2.1. Airspeed: +15/-10 knots.

5.7.8.2.2. Heading: ± 10 degrees (ASR).

5.7.8.2.3. Course: ± 10 degrees at MAP (TAC, VOR, NDB).

5.7.8.2.4. Localizer: Within two dots deflection.

5.7.8.2.5. MDA: +150/-50 feet.

5.7.8.2.6. MAP: Timing computed/adjusted within 20 seconds or distance within + 1 / - .5 nm.

5.7.8.3. U. Approach not IAW flight manual, directives, or published procedures. Maintained steady-state flight below the MDA, even though the -50 foot limit was not exceeded. Could not land safely from approach and did not initiate missed approach/go-around when appropriate or directed. Exceeded Q- criteria.

5.7.8.4. Area 107a. TACAN.

5.7.8.5. Area 107b. VOR.

5.7.8.6. Area 107c. LOC.

5.7.8.7. Area 107d. NDB.

5.7.8.8. Area 107e. ASR.

5.7.9. Area 108. Circling/Side-Step Approach.

5.7.9.1. Q. Properly identified aircraft category for the approach and remained within the lateral limits for that category. Complied with controller's instructions. Attained runway alignment without excessive bank angles. Did not descend from the MDA until in a position to place the aircraft on a normal glide path or execute a normal landing.

5.7.9.1.1. Airspeed: +10/-5 knots.

5.7.9.1.2. Altitude: +100/-0 feet.

5.7.9.2. Q-. Slow to comply with controller's instructions. Attained runway alignment but occasionally required excessive bank angles or maneuvering.

5.7.9.2.1. Airspeed: +15/-10 knots.

5.7.9.2.2. Altitude: +150/-50 feet.

5.7.9.3. U. Did not properly identify aircraft category or exceeded the lateral limits of circling airspace. Did not comply with controller's instructions. Excessive maneuvering to attain runway alignment was potentially unsafe. Descended from the MDA before the aircraft was in position for a normal glide path or landing. Exceeded Q- criteria.

5.7.10. Area 109. Engine-Out Approach. Note: Use approach criteria for the type of approach being flown and the following.

5.7.10.1. Q. Performed procedures IAW the flight manual and associated directives. Individual technique complied with established procedures. Proper control inputs were used to correct asymmetric condition. Aircraft was properly trimmed. Proper consideration was given to maneuvering with regard to the "dead" engine.

5.7.10.2. Q-. Minor deviations in procedures/aircraft control allowed the aircraft to occasionally be in uncoordinated flight. Unnecessary maneuvering due to minor errors in planning or judgment.

5.7.10.3. U. Major/unsafe deviations from procedures. Individual technique unsafe or violated established procedures. Aircraft was not properly trimmed. Aircraft control consistently resulted in uncoordinated flight. Potentially unsafe maneuvering with regard to the “dead” engine.

5.7.11. Area 110. Missed Approach/Go-Around.

5.7.11.1. Q. Executed missed approach IAW published procedures and restrictions. Initiated and performed go-around promptly. Complied with controller’s instructions. Applied smooth control inputs. Attained and maintained a positive climb.

5.7.11.2. Q-. Executed missed approach with minor deviations to published procedures/directives. Was slow or hesitant to initiate go-around. Slow to respond to controller’s instructions. Slightly over-controlled the aircraft.

5.7.11.3. U. Did not execute missed approach IAW technical orders, directives, or published procedures. Did not comply with controller’s instructions. Deviations or misapplication of procedures could have led to an unsafe condition. Exceeded Q-criteria.

5.7.12. Area 111. Engine-Out Go-Around. Note: Use Area 110 criteria and the following.

5.7.12.1. Q. Applied smooth, coordinated control inputs. Rudder and aileron inputs were in the correct direction. Maneuvered appropriately with regard to the “dead” engine. Individual technique complied with established procedures.

5.7.12.2. Q-. Rudder and aileron inputs were in correct direction but some over/under control. Individual techniques were safe, but detracted from the maneuver.

5.7.12.3. U. Rudder and/or aileron inputs were incorrect. Maneuvering with regard to the “dead” engine potentially unsafe. Failed to comply with/consider minimum control speeds. Individual technique unsafe or violated established procedures.

5.7.13. Area 112. VFR Pattern.

5.7.13.1. Q. Adhered to published restrictions/local guidance. Performed traffic pattern and turn to final/final approach IAW flight manual procedures. Aircraft control was smooth and positive. Did not over/undershoot final approach. Constantly cleared area of intended flight.

5.7.13.2. Q-. Minor deviations from published restrictions/local guidance. Performed traffic pattern and turn to final/final approach with minor deviations to procedures. Aircraft control was safe but not consistently smooth and positive. Over/under-shot final approach slightly but was able to intercept a normal glide path. Adequately cleared area of intended flight.

5.7.13.3. U. Major/unsafe deviations from published restrictions/local guidance. Did not perform traffic pattern and turn to final/final approach IAW technical orders, directives, or published procedures. Displayed erratic aircraft control. Over/under-shot

final approach by a wide margin requiring a go-around or potentially unsafe maneuvering on final. Did not clear area of intended flight. Exceeded Q- criteria.

5.7.14. Area 113. Final Approach and Landing.

5.7.14.1. Areas 113a through 113e. Use the following criteria. **Note:** The following criteria are written to generally apply to all landings. Flight examiners must apply these criteria judiciously to allow for the unique characteristics of each type of landing. Where runway configuration, arresting cable placement, or flight manual limitations require an adjustment to the desired touchdown point, a simulated runway threshold will be identified, and the grading criteria applied accordingly. For instrument approaches, the examinee should utilize a normal glideslope from either the decision height or from a point where visual acquisition of the runway environment is made. Specific items to evaluate include threshold altitude/airspeed, runway alignment, flare, touchdown speed, and landing crab.

5.7.14.1.1. Q. Performed landing as published/directed IAW flight manual. Crossed threshold at threshold speed ± 5 knots at proper attitude. Smooth and positive aircraft control throughout the round-out and flare. Touched down with no crab, and not more than 15 feet left or right of centerline. Complied with flight manual procedures for the use of brakes and reverse thrust. Met the following criteria:

5.7.14.1.1.1. Touchdown Speed: ± 5 knots.

5.7.14.1.1.2. Touchdown Point: Within 1,000 feet of intended touchdown point.

5.7.14.1.2. Q-. Performed landing with minor deviations to procedures as published/directed. Crossed threshold at threshold speed $+10/-5$ knots slightly high or low but no compromise of safety. Touched down not more than 25 feet left or right of centerline. Exceeded Q criteria but not the following:

5.7.14.1.2.1. Touchdown Speed: $+10/-5$ knots.

5.7.14.1.2.2. Touchdown Point: Threshold-3,000 feet.

5.7.14.1.3. U. Landing not performed as published/directed. Exceeded Q- criteria. Failed to comply with flight manual procedures for the use of brakes and reverse thrust.

5.7.14.2. Area 113a. 100 Percent Flap Landing.

5.7.14.3. Area 113b. 50 Percent Flap Landing.

5.7.14.4. Area 113c. No Flap Landing.

5.7.14.5. Area 113d. Engine-out Landing.

5.7.14.6. Area 113e. Touch-and-go Landing.

5.7.15. Area 114. Fuel Conservation.

5.7.15.1. Q. Possessed a high level of knowledge of all applicable aircraft publications and other governing directives and understood how to apply both to enhance fuel conservation. Successfully applied fuel conservation procedures during the mission.

5.7.15.2. Q-. Possessed some knowledge of applicable aircraft publications and other governing directives and understood how to apply both to enhance fuel conservation. Successfully applied some fuel conservation procedures, but missed several opportunities to apply fuel conservation procedures during the mission.

5.7.15.3. U. Unaware of fuel conservation procedures. Failed to apply any fuel conservation procedures during the mission.

5.7.16. Area 115. Systems Operation/Knowledge/Limitations/NAS.

5.7.16.1. Q. Demonstrated/explained a complete knowledge of aircraft systems operations/ limitations and proper procedural use of systems. Demonstrated complete knowledge of and complied with NAS rules and procedures in all areas of mission planning and flight operations.

5.7.16.2. Q-. Marginal knowledge of aircraft systems operations and limitations in some areas. Used individual technique instead of established procedures and was unaware of differences. Marginal knowledge of NAS rules and procedures.

5.7.16.3. U. Unsatisfactory systems knowledge. Failed to demonstrate/explain the procedures for aircraft system operations. Unsatisfactory knowledge of NAS rules and procedures.

5.7.17. Area 116. Automation Management.

5.7.17.1. Q. Established/followed guidelines for the operation of automated systems; aware of when systems should be disabled, and when programming actions must be verbalized and acknowledged. Established/followed Pilot Flying (PF) and Pilot Monitoring (PM) responsibilities with regard to automated systems. Periodically reviewed and verified the status of aircraft automated systems. Verbalized and acknowledged entries and changes to automated systems parameters. Allowed sufficient time for programming the CNI-MU. Used automated systems at appropriate levels to reduce workload, but reduced or disengaged level of automation when programming demands could have reduced situational awareness or created work overloads.

5.7.17.2. Q-. Had limited knowledge of guidelines for the operation of automated systems; unclear as to when systems should be disabled, or when programming actions must be verbalized and acknowledged. Slow to establish/follow Pilot Flying (PF) and PM responsibilities with regard to automated systems. Slow to review and verify the status of aircraft automated systems. Inconsistently verbalized and acknowledged entries and changes to automated systems parameters. Did not always allow sufficient time for programming the CNI-MU. Inconsistently used automated systems at appropriate levels.

5.7.17.3. U. Did not establish/follow guidelines for the operation of automated systems; unaware of when systems should be disabled, or programming actions that must be verbalized and acknowledged. Did not establish/follow PF and PM responsibilities with regard to automated systems. Did not periodically review and verify the status of aircraft automated systems. Did not verbalize and acknowledge entries and changes to automated systems parameters. Failed to allow sufficient time for programming the CNI-MU. Did not use automated systems at appropriate levels, to decrease workload. Did not

reduce or disengage level of automation when programming demands reduced situational awareness or created work overloads.

5.7.18. Areas 117 - 149. Reserved for future use.

5.7.19. Area 150. Tactical Recovery. Note: Includes SCAs, overheads, downwind, random steep/shallow, etc.

5.7.19.1. Q. Followed procedures as briefed and IAW flight manual, directives, or published procedures. Displayed smooth, positive control throughout the recovery. Positioned aircraft to intercept glide path for normal landing. Gave proper consideration to threat location and adjusted pattern accordingly. Constantly cleared area of intended flight.

5.7.19.2. Q-. Performed recovery with minor deviations to published procedures. Aircraft control was not consistently positive and smooth. Over/under-shot final approach slightly but was able to intercept glide path for normal landing.

5.7.19.3. U. Recovery not performed IAW flight manual, directives, or published procedures. Displayed erratic aircraft control. Over/under-shot final approach, requiring a go-around or potentially unsafe maneuvering to intercept final. Failed to consider threat location or proximity and/or maneuvering could have placed the aircraft within lethal range of given threat system. Did not clear area of intended flight.

5.7.20. Area 151. Maximum Effort Takeoff.

5.7.20.1. Q. Displayed satisfactory knowledge of maximum effort procedures. Could describe and apply terms such as acceleration check speed, Minimum Field Length for Maximum Effort Takeoff, three-engine Vmca, etc. Thoroughly analyzed departure/landing runway and surrounding terrain. Reviewed all applicable Takeoff and Landing Data (TOLD) and thoroughly briefed crew on their duties. Maintained smooth positive control throughout departure roll and takeoff. Climbed on speed and decreased angle or attack once clear of obstacle.

5.7.20.2. Q-. Minor deviations in knowledge or published procedures. Minor errors in describing or applying above terms. Minor errors or omissions in TOLD or crew briefing. Control inputs were abrupt. Minor deviations from published/briefed procedures did not jeopardize safety.

5.7.20.3. U. Procedures not IAW flight manual, directives, or published procedures. Failed to analyze assault zone constraints or verbalize concerns posed by terrain or other factors. Could not describe or apply above terms. Major errors in TOLD data review or crew briefing. Displayed unsatisfactory knowledge of assault procedures. Takeoff was not IAW with flight manual, directives, or published procedures. Did not use Vmca when conditions permitted. Raised flaps too quickly with relation to airspeed. Performance of maneuver jeopardized safety.

5.7.21. Area 152. Maximum Effort Landing.

5.7.21.1. Q. Adhered to published procedures. Maintained smooth approach path. Used proper aim points with positive corrections, as necessary. Touched down on centerline within the zone (defined as the marked 500' zone or prebriefed 500' zone if instrument

markings are used) without excessive bouncing or crab. Maintained runway centerline during rollout. Stopped at prebriefed location or exited the runway at prebriefed location.

5.7.21.1.1. Airspeed: ± 5 knots.

5.7.21.2. Q-. Minor deviations to published procedures. Aim point/aircraft alignment wandered or corrections were not smooth or timely. Landed in zone but had excessive bouncing or crab.

5.7.21.2.1. Airspeed: $+ 10/- 5$ knots.

5.7.21.3. U. Touchdown short of the landing zone. Touchdown beyond the landing zone and did not execute a go-around. Touchdown/rollout was more than 10 feet from centerline. Failed to stop at prebriefed location or exit the runway at prebriefed location.

5.7.22. Area 153. NVG Airland. Note: NVG airland may be evaluated utilizing normal or maximum effort procedures. When evaluating copilots, use normal procedures.

5.7.22.1. For non-maximum effort NVG airland operations use following areas for detailed criteria:

5.7.22.1.1. Area 101 – Takeoff.

5.7.22.1.2. Area 113 – Landing.

5.7.22.1.3. Area 110 – Missed Approach/Go-Around. **Note:** If using maximum effort procedures during NVG airland Procedures, additionally use the Areas 151 and 152.

5.7.22.2. Q. Takeoff, landing, and missed approach criteria listed were not exceeded. Displayed satisfactory knowledge of NVG airland procedures. Thoroughly analyzed departure/landing runway and surrounding terrain.

5.7.22.3. Q-. Minor deviations in knowledge or published procedures. Errors did not affect safety or mission accomplishment.

5.7.22.4. U. Procedures not IAW flight manual, directives, or published procedures. Failed to analyze NVG airland constraints or verbalize concerns posed by terrain or other factors. Could not describe or apply above terms. Displayed unsatisfactory knowledge of NVG airland procedures. Major errors impacting safety and mission accomplishment.

5.7.23. Areas 154 - 199. Reserved for future use.

Chapter 6

COMBAT SYSTEMS OPERATOR (CSO) EVALUATIONS

6.1. General. Mission qualified CSO require a combined qualification and mission evaluation. CSO maintaining only basic qualification require a QUAL flight evaluation. Instructors will demonstrate instructor duties on all periodic evaluations. (T-2)

6.2. Requirements. Evaluate all applicable general areas outlined in [Table 2.1](#) and [Table 4.1](#) on all evaluations. Also, evaluate all instructors on areas in [Table 3.1](#) on all evaluations. CSO specific areas and criteria are listed in this chapter. Open and closed book examinations boldface and an EPE are requisites for periodic evaluations and are pre-requisites for initial evaluations. All requirements for CSO instructor, qualification/mission and special mission evaluations are Tier 2 requirements unless otherwise noted. (T-2)

6.3. Combined Qualification/Mission. In addition to areas listed in [Tables 2.1](#), [3.1](#), and [4.1](#), mission evaluations will include applicable areas in [Table 6.1](#). At a minimum for airdrop and low-level evaluations, annotate the following on the AF Form 8 Section IV Comments: the type of drop conducted, drop score, TOA/TOT, type of low-level flown. (T-2)

6.3.1. Initial/Requalification (airland). The mission profile will include an Infil/Exfil operation, defensive tactics/threat avoidance maneuver(s), tactical recovery/SCA, and mission systems operations with the MCC and ECS crew positions on board and/or air-to-air refueling. Mission systems operations may be ground evaluated if not accomplished in-flight. TOT/TOA will be evaluated to one of the events above. (T-2)

6.3.2. Initial/Requalification (airdrop). Initial qualification evaluations require in-flight events including at least a 30 minute low-level timed to a tactical event and a threat reaction. A tactical event is considered to be an airdrop, or SCA. Though only one TOA/TOT is required, both events must be observed. The CSO must be actively directing the aircraft during the low-level. If the timed tactical event is a high-speed airdrop then a separate slow-speed TOA/TOT is required. In that case, the evaluator will determine the length of the additional low-level. Mission systems operations with the MCC and ECS crew positions on board and/or AAR may be accomplished. TOT/TOA will be evaluated to one of the events above. Mission systems operations will be ground evaluated if not accomplished in-flight. (T-2)

6.3.3. Periodic. Required in-flight events are the same as initial/requalification evaluations noted above with the following exception: The TOA/TOT may be timed to either a high-speed airdrop, or slow-speed event. AAR will be ground evaluated if not accomplished in-flight.

6.4. Special Mission Events.

6.4.1. Air-To-Air Refueling . Reference [Chapter 4](#) Common Grading areas for additional information. (T-2)

6.4.2. Initial/Requalification. The evaluation profile will include a TOT to an actual rendezvous and the execution of all checklists from Rendezvous thru Post Air-Refueling. (T-2)

6.4.2.1. AAR qualification is only required in one C-130 MDS. Once AAR qualified, AAR may be conducted in any AAR capable C-130, with a CSO station, in which the CSO is qualified/differences trained.

6.5. Special Qualification Evaluations (reserved for future use).

Table 6.1. CSO QUAL/MSN Grading Areas (T-2).

Area	Grading Areas
200	Descent/Approach/Landing ¹
201	In-Flight CARP Reevaluation ^{1,4}
202	SCA Procedures ²
203-299	Reserved for future use
Notes: 1. Required in-flight or simulator certified for this event. 2. Required in-flight or alternate method. 3. Required for QUAL-only flight evaluations. 4. Required for Airdrop CSO only.	

6.6. Grading Criteria. The following subparagraphs contain grading criteria for the areas listed in **Tables 6.1.** (T-2)

6.6.1. Area 200. Descent/Approach/Landing.

6.6.1.1. Q. Monitored aircraft position, approach instructions, and tuned, identified, and monitored primary approach navigation aids. Furnished headings, ETAs, and other information to the pilot as required. Thoroughly understood approach and missed approach procedures. Ensured terrain clearance during approach by use of all available aids and area chart.

6.6.1.2. Q-. Monitored aircraft position but did not fully understand approach instructions/procedures. Slow to provide headings, ETAs, or other appropriate information.

6.6.1.3. U. Failed to monitor aircraft position or tune, identify and monitor the appropriate navigation aid. Did not ensure terrain clearance during the approach. Did not use appropriate chart/approach plate.

6.6.2. Area 201. In-Flight CARP Reevaluation.

6.6.2.1. Q. CARP properly reevaluated in-flight and updated information conveyed to pilot.

6.6.2.2. Q-. CARP reevaluated in-flight but data was old or improperly computed. Errors were not great enough to cause an unsuccessful airdrop.

6.6.2.3. U. CARP not reevaluated in-flight or was improperly reevaluated leading to a no-drop or unsuccessful airdrop.

6.6.3. Area 202. SCA Procedures.

6.6.3.1. Q. Completed SCA IAW appropriate instructions. Successfully directed the aircraft to a position where a safe landing could have been accomplished. Used proper, clear, and concise terminology during entire approach.

6.6.3.2. Q-. Briefing was incomplete or deviated from established procedures. Improperly programmed equipment, had minor deviations on directing planned go-around or directed excessive course/glideslope corrections, but still able to direct aircraft to a point where a safe landing could be made.

6.6.3.3. U. Had unsatisfactory knowledge of SCA procedures. Failed to direct the aircraft to a point from which a safe landing could be made.

6.6.4. Areas 203 - 299. Reserved for future use.

Chapter 7

LOADMASTER EVALUATIONS

7.1. General. This chapter standardizes initial, periodic, and requalification evaluations, including requirement for qualification, mission, and instructor evaluations. (T-2)

7.2. Requirements. Refer to [Chapter 2](#) for general, [Chapter 3](#) for instructor, and [Chapter 4](#) for common grading areas and criteria. Loadmaster specific areas and criteria are listed in this chapter. All requirements for loadmaster qualification and mission evaluations are Tier 2 requirements unless otherwise noted. (T-2)

7.3. Qualification. Qualification evaluations will consist of aircraft preflight, cargo loading (floor, palletized, or rolling stock), in-flight procedures, cargo offloading, and aircraft postflight. If an actual load is not available for the flight evaluation portion, palletized, airdrop platform, or vehicle cargo will be static loaded upon completion of flight. Qualification open and closed-book examinations, boldface procedures, and an EPE are prerequisites for initial evaluations, and requisites for individuals who are not mission qualified. The EPE should cover the following areas during a qualification evaluation: Emergency signals, ground emergencies, in-flight emergencies (fuselage fire/smoke and fume elimination, in-flight door warning, rapid decompression, cargo door and ramp failure, cargo jettison, bailout procedures); landing emergencies (landing gear retracted, ditching) and system knowledge. (T-2)

7.3.1. Initial/Requalification. In addition to areas listed in [Tables 2.1](#) and [3.1](#), qualification evaluations will include Note 3 areas in [Table 4.1](#) as applicable and Note 1 areas in [Table 7.1](#). Required events include a minimum of complete aircraft preflight, a sortie of any type, and a complete postflight. (T-2)

7.3.2. Periodic. Complete evaluation as outlined in [Paragraph 7.3.1](#). (T-2)

7.4. Combined Qualification/Mission. Mission evaluations may be administered concurrently with the initial qualification/requalification evaluation. Requalification evaluations will be administered as required to regain qualification. Mission open and closed-book examinations and an EPE are requisites (prerequisites for initial). (T-2)

7.4.1. Initial/Requalification. Administer the evaluation to include, as a minimum: a complete aircraft preflight; completion of the applicable weight and balance, load planning, onload/offload procedures with actuals, and an aircraft postflight. Due to aircraft availability, the evaluation may be accomplished on the Commando Solo (CS) aircraft provided a full CS mission profile is accomplished with all other loadmaster evaluation requisites satisfied. Forward Area Refueling Point (FARP), or infiltration/exfiltration (with certified equipment) may be accomplished during an evaluation to satisfy the tactical event requirement. Specify in the comment section of the AF Form 8 the type of mission accomplished. If FARP or infiltration/exfiltration is evaluated, the following restrictions apply:

7.4.1.1. Infiltration/exfiltration load must consist of, as a minimum, one four-wheeled vehicle. (T-2)

7.4.1.2. Accomplish FARP evaluations on tanker aircraft, and must be under NVG conditions if FARP is the only tactical event accomplished on the evaluation. (T-2)

7.4.1.3. For airdrop loadmasters, an actual airdrop to include either HE airdrop (tow plate preferred), CDS airdrop, or static line personnel will be accomplished. Military Free Fall (MFF), door bundles, and SATBs are not acceptable. Uploading airdrop equipment will satisfy the onload/offload requirements in **Paragraph 7.4.1.** (T-2)

7.4.2. Periodic. For the evaluation comply with **Paragraph 7.4.1** through **Paragraph 7.4.1.3.** (T-2)

Table 7.1. Loadmaster QUAL/MSN Grading Areas (T-2).

Area	Grading Areas
300	Life Support Equipment ¹
301	Aircraft Configuration ¹
302	Load Planning/Inspection ¹
303	On/Offloading Procedures ¹
304	Supervisory Abilities ¹
305	Tie-Down/Restraint ¹
306	Winching Procedures ¹
307	Hazardous Material ¹
308	Aircraft Limitations ¹
309	Passenger Handling ¹
310	Border Clearance ¹
311	Scanner Duties ¹
312	Engine Running Onload/Offload ¹
313	Infiltration/Exfiltration
314	Airdrop Rigging Procedures
315	Joint Airdrop Inspection
316	Coordinated Tasks Briefing
317	Airdrop Knowledge
318	NVG Usage/Limitations
319-399	Reserved for future use
Notes:	
1. Required for QUAL portion of flight evaluations.	

7.5. Grading Criteria. The following subparagraphs contain grading criteria for the areas listed in **Table 7.1.** (T-2)

7.5.1. Area 300. Life Support Equipment.

7.5.1.1. Q. Located, inspected, distributed, and/or demonstrated the proper use of life support or emergency equipment. Satisfactory knowledge of equipment.

7.5.1.2. Q-. Difficulty locating, inspecting, and/or demonstrating the proper use of life support or emergency equipment. Adequate knowledge of equipment, but needs improvement.

7.5.1.3. U. Failed to inspect, distribute, and/or demonstrate the proper use of life support or emergency equipment. Unsatisfactory knowledge of equipment.

7.5.2. Area 301. Aircraft Configuration.

7.5.2.1. Q. Ensured the aircraft was properly configured to accommodate mission requirements. Familiar with various configurations as outlined in applicable directives and properly stowed configuration items that were not used.

7.5.2.2. Q-. Difficulty configuring the aircraft but did not impede mission. Limited knowledge of various configurations as outlined in applicable directives.

7.5.2.3. U. Failed to ensure proper aircraft configuration or caused mission delays. Had unsatisfactory knowledge of configurations. Failed to properly stow configuration items.

7.5.3. Area 302. Load Planning/Inspection.

7.5.3.1. Q. Accurately planned a passenger/cargo load and met aircraft Center of Gravity (CG) limits. Inspected load for proper preparation and documentation.

7.5.3.2. Q-. Difficulty planning a passenger/cargo load to meet CG limits. Difficulty inspecting load for proper preparation and documentation.

7.5.3.3. U. Failed to plan a passenger/cargo load and meet CG limits. Failed to inspect load for proper preparation and documentation.

7.5.4. Area 303. On/Offloading Procedures.

7.5.4.1. Q. Correctly on/offloaded the aircraft safely and in a timely manner. Cargo entered into the multi-functional control display (MFCD)/CNI-MU with less than 10 inches variance from actual load placement.

7.5.4.2. Q-. Difficulty correctly on/offloading the aircraft. Cargo loaded in MFCD/CNI-MU 10-20 inches from actual load placement.

7.5.4.3. U. Failed to correctly or safely on/offload the aircraft. Loading procedures caused undue delay. Cargo loaded in MFCD/CNI-MU more than 20 inches from actual load placement. Heavy equipment and combat offload platform not programmed in MFCD exactly as they are loaded in the aircraft.

7.5.5. Area 304. Supervisory Abilities.

7.5.5.1. Q. Established and maintained control of personnel during loading operations.

7.5.5.2. Q-. Established and maintained control of personnel, but made minor supervisory errors. Safety was not compromised.

7.5.5.3. U. Did not establish or maintain control of personnel and/or safety was compromised.

7.5.6. Area 305. Tie-Down/Restraint.

7.5.6.1. Q. Correctly calculated and applied correct amount of restraint to a given item. Understood and could state the principals of restraint.

7.5.6.2. Q-. Difficulty calculating or applying the correct amount of restraint. Did not fully understand the principals of restraint.

7.5.6.3. U. Failed to correctly calculate or apply the correct amount of restraint. Did not understand and could not state the principals of restraint.

7.5.7. Area 306. Winching Procedures.

7.5.7.1. Q. Correctly demonstrated and/or explained winching procedures.

7.5.7.2. Q-. Difficulty demonstrating and/or did not completely explain correct winching procedures but safety was not compromised.

7.5.7.3. U. Failed to demonstrate and/or did not explain correct winching procedures or safety was compromised.

7.5.8. Area 307. Hazardous Material.

7.5.8.1. Q. Understood hazardous cargo procedures. Could comply with the provisions of AFMAN 24-204(I), *Preparing Hazardous Materials for Military Air Shipments*, and/or follow the procedures for air movement of hazardous cargo under tactical, contingency, or emergency conditions.

7.5.8.2. Q-. Understood hazardous cargo procedures, but made minor deviations stating them. Could comply with the provisions of AFMAN 24-204(I), and/or follow the procedures for air movement of hazardous cargo under tactical, contingency, or emergency conditions.

7.5.8.3. U. Did not understand hazardous cargo procedures in AFMAN 24-204(I).

7.5.9. Area 308. Aircraft Limitations. Note: Limitations may include, but are not limited to cargo floor, roller station, compartment, pallet weight, height, nets, and loading aids.

7.5.9.1. Q. Correctly stated, understood, and could apply the correct limitations associated with the aircraft, on/offloading, and associated equipment.

7.5.9.2. Q-. Had difficulty stating various limitations. Had difficulty locating correct limitations in the loading manual.

7.5.9.3. U. Failed to state various limitations, or could not locate correct limitations in the loading manual.

7.5.10. Area 309. Passenger Handling.

7.5.10.1. Q. Correctly briefed and performed passenger handling procedures.

7.5.10.2. Q-. Had difficulty briefing and/or performing passenger handling procedures.

7.5.10.3. U. Failed to brief and/or did not perform proper passenger handling procedures.

7.5.11. Area 310. Border Clearance.

7.5.11.1. Q. Correctly followed command guidelines. Completed/explained border clearance requirements IAW current directives.

7.5.11.2. Q-. Difficulty explaining border clearance requirements. Minor mistakes degraded effectiveness.

7.5.11.3. U. Could not accurately complete forms. Unaware of command guidance, or could not explain requirements.

7.5.12. Area 311. Scanner Duties.

7.5.12.1. Q. Periodically performed scanner duties by monitoring aircraft interior and exterior for abnormal conditions.

7.5.12.2. Q-. Did not scan in a timely manner to recognize abnormal conditions.

7.5.12.3. U. Failed to perform scanner duties by monitoring or making periodic checks of the aircraft interior and exterior for abnormal conditions.

7.5.13. Area 312. Engine Running Onload/Offload.

7.5.13.1. Q. Followed/explained proper procedures for engine running on/offload operations.

7.5.13.2. Q-. Difficulty following/explaining proper procedures for engine running on/offload operations.

7.5.13.3. U. Did not follow/explain proper procedures for engine running on/offloading.

7.5.14. Area 313. Infiltration/Exfiltration.

7.5.14.1. Q. Followed/explained proper procedures for NVG infiltration/exfiltration operations.

7.5.14.2. Q-. Difficulty following/explaining proper procedures for NVG infiltration/exfiltration operations.

7.5.14.3. U. Did not follow/explain proper procedures for NVG infiltration/exfiltration operations.

7.5.15. Area 314. Airdrop Rigging Procedures.

7.5.15.1. Q. Correctly rigged and identified key airdrop components.

7.5.15.2. Q-. Difficulty rigging and/or identifying key airdrop components.

7.5.15.3. U. Failed to rig and/or identify key airdrop components.

7.5.16. Area 315. Joint Airdrop Inspection.

7.5.16.1. Q. Correctly completed/explained the joint airdrop inspection (if required).

7.5.16.2. Q-. Had difficulty completing/explaining the joint airdrop inspection (if required).

7.5.16.3. U. Failed to or had extreme difficulty completing/explaining the joint airdrop inspection (if required).

7.5.17. Area 316. Coordinated Tasks Briefing.

7.5.17.1. Q. Correctly briefed the coordinated tasks IAW current directives (if required).

7.5.17.2. Q-. Had difficulty briefing the coordinated tasks IAW current directives (if required).

7.5.17.3. U. Failed to accomplish the coordinated tasks briefing IAW current directives (if required).

7.5.18. Area 317. Airdrop Knowledge.

7.5.18.1. Q. Correctly demonstrated airdrop procedures for the event being flown, if performed. Knowledge of and airdrop load information and procedures for other types of loads were satisfactory.

7.5.18.2. Q-. Had difficulty demonstrating and/or understanding airdrop procedures and airdrop load information.

7.5.18.3. U. Could not demonstrate and/or understand airdrop procedures and airdrop load information.

7.5.19. Area 318. NVG Usage/Limitations.

7.5.19.1. Q. Correctly described the use/limitations of NVG.

7.5.19.2. Q-. Minor omissions or deviations in describing the use/limitations of NVG. Did not properly preflight, handle, or use NVG during the flight, but caused no damage to equipment. Mission success was not negatively affected.

7.5.19.3. U. Procedures for using NVG were incorrect. Caused damage to equipment. Mission unsuccessful as a result of improper NVG usage.

7.5.20. Areas 319-399. Reserved for future use.

Chapter 8

ELECTRONIC COMMUNICATIONS SYSTEMS (ECS) OPERATORS EVALUTIONS

8.1. General. Mission qualified Electronic Communication Systems Operators require a combined qualification and mission evaluation. Instructors will demonstrate instructor duties on all periodic evaluations. (T-2)

8.2. Requirements. Refer to **Chapter 2** and **Chapter 4** for all evaluations and **Chapter 3** for instructor evaluations. ECS specific areas and criteria are listed in this chapter. See **Table 8.2** for required areas. **Table 8.1** lists the types of ECS mission qualification evaluations. ECS qualification/mission evaluations and grading criteria requirements are Tier 2 requirements unless otherwise noted. (T-2)

8.2.1. Initial/Requalification. Initial qualification for Mission Qualified ECS (MK) can be given at narrow band operator (NB) and/or wideband operator (WB) and/or medium frequency (MF)/high frequency operator (HF) positions. Based on unit needs, horizontal trailing wire antenna (HTWA)/vertical trailing wire antenna operator (VTWA) qualification is an additional qualification to be added after qualification at HF/MF. Program Technician (PT) position requires qualification at NB, WB, MF, HF, in addition to HTWA/VTWA (TWA) qualification.

8.2.2. Periodic Qualification/Mission. Requirements for periodic evaluations are the same as initial/requalification evaluations.

8.3. Combined Qualification/Mission Evaluations. See **Table 8.2** for required evaluation areas.

8.3.1. Qualification: Qualification open and closed book examinations (or formal school end of course examinations) and an EPE are prerequisites for initial evaluations and requisites for individuals who are not mission qualified.

8.3.2. Mission: Mission evaluations are normally administered concurrently with the qualification evaluation. Requalification evaluations will be administered as required to regain qualification. Mission open and closed book examinations (or formal school end-of-course examinations) are requisites (pre-requisites for initial). Qualification/mission (QUAL/MSN) evaluations will include sub areas listed in **Table 2.1**, **Table 3.1** (instructors), and **Table 8.2** in each position as required. IAW **Paragraph 1.9**, for areas without a note, flight examiners may evaluate at their discretion if observed. (T-2)

Table 8.1. ECS Mission Qualification Evaluations (T-2).

Description	Qualification	Initial Evaluation	Upgrade Evaluation
Narrowband Position	MK	Initial QUAL/MSN	SPOT
Wideband Position	MK	Initial QUAL/MSN	SPOT
MF/HF Positions	MK	Initial QUAL/MSN	SPOT
Program Technician Position	MK ¹	N/A	SPOT

Note:

1. Qualification for the PT position is additive, in the fact that it requires prerequisite qualifications in MF, HF, NB, and WB, as well as HTWA/VTWA (TWA) qualification.

Table 8.2. Electronic Communications Systems Operators Grading Areas (T-2).

Area	Grading Areas	NB/WB	MF/HF	PT
400	Mission Crew Planning	X	X	X
401	Secure Communication (PT only)			X
402	MCC Equipment (PT only)			X
403	Malfunction Analysis/Troubleshooting ²	X	X	X
404	Manual/Degraded Operations	X	X	X
405	Tactics/Defensive Systems	X	X	X
406	Power Up	X	X	X
407	Amplifier Checks	X	X	X
408	System Checks	X	X	X
409	Program Checks ^{2,3}	X	X	X
410	Antenna Systems Check ^{1,2}	X	X	X
411	Trailing Wire Antenna Extension/Retrieval ¹			X
412	Electronic Attack	X		X
413	Event Operations ²	X	X	X
414	Power Down/Post Flight/Debriefing	X	X	X
415	NVG Usage/Limitations	X	X	X
416-499	Reserved for Future use			

Notes:

1. Required in-flight.
2. Required in-flight or simulator certified facility or alternate method for this event.
3. Does not include record/review time.

8.4. Grading Criteria. (T-2)

8.4.1. Areas 1 through 19 – Use general grading criteria in [Chapter 2](#) of this volume.

8.4.2. Areas 20 through 24 – Use instructor evaluation grading criteria in [Chapter 3](#) of this volume (if applicable).

8.4.3. Area 400. Mission Crew Planning.

8.4.3.1. Q. Checked all factors applicable to the mission. Complied with MCC directives. Demonstrated sufficient target knowledge, equipment knowledge, and tasking to complete mission planning in an effective manner. Complied with local directives governing procedures. Demonstrated knowledge of available alternatives.

8.4.3.2. Q-. Checked all information required to complete mission planning, but with minor errors or omissions that did not degrade mission accomplishment. Target knowledge, equipment knowledge, or tasking comprehension was incomplete or inaccurate, but sufficient to complete mission planning. Minor deviations from local directives or MCC instructions.

8.4.3.3. U. Errors or omissions in mission planning that could have jeopardized safety or adversely effected mission accomplishment. Target knowledge, equipment knowledge, or tasking comprehension was insufficient to complete mission planning. Deviations in procedures resulted in incomplete/inaccurate planning.

8.4.4. **Area 401. Secure Communications (PT only).**

8.4.4.1. Q. Demonstrated thorough knowledge and use of all radios, including line of sight (LOS) and satellite communications (SATCOM).

8.4.4.2. Q-. Limited knowledge and operation of systems. Minor deviations in system operation that caused some delay but did not jeopardize overall mission accomplishment.

8.4.4.3. U. Operation or knowledge of radios was inadequate. Deviations jeopardized overall mission accomplishment or delay to mission execution.

8.4.5. **Area 402. MCC Equipment (PT only).**

8.4.5.1. Q. Adequately assisted the MCC in planning, directing, monitoring and controlling mission execution using MCC monitor lines, radios, crew coordination and digital Intercom System (ICS).

8.4.5.2. Q-. Limited quality and quantity of assistance provided to the MCC in planning, directing, monitoring and controlling mission execution using MCC monitor lines, radios, crew coordination and Digital ICS.

8.4.5.3. U. Inadequate quality and quantity of assistance provided to the MCC in planning, directing, and monitoring and controlling mission execution using MCC monitor lines, radios, crew coordination and Digital ICS.

8.4.6. **Area 403. Malfunction Analysis/Troubleshooting.**

8.4.6.1. Q. Had adequate knowledge of system analysis and troubleshooting techniques in accordance with manuals, directives, and locally approved established procedures. Logical techniques, procedures and test equipment were used to confirm, diagnose, and isolate malfunctions. Effective action in isolating, and applying corrective action to the malfunctions. Utilized and properly applied available resources and CRM techniques to

maintain an operational system. Kept mission crew informed of operational limitations, and advised MCC/PT on technical alternatives.

8.4.6.2. Q-. Limited knowledge of system analysis and logical troubleshooting techniques. Limited knowledge of procedures, techniques and test equipment to confirm, diagnose and isolate malfunctions. Uncertain as to what corrective action was required. Unfamiliar with what resources and CRM techniques were available to maintain an operational system. Kept mission crew informed, but supplied limited or inaccurate information.

8.4.6.3. U. Knowledge of system analysis and troubleshooting techniques was inadequate. Failed to use available test equipment to confirm, diagnose, and isolate equipment malfunctions. Unable to apply corrective action to the system malfunctions. Did not know what resources and CRM techniques were available to maintain an operational system. Did not inform mission crew of system limitations or technical alternatives.

8.4.7. Area 404. Manual/Degraded Operations.

8.4.7.1. Q. Adequate operational knowledge of the applicable systems, to continue operations without the server providing modulation and/or Radio Frequency (RF) routing. Demonstrated proper procedure to use carryon modulation equipment, as well as use alternative methods to route RF, program and monitoring material in meeting objectives.

8.4.7.2. Q-. Limited operational knowledge of the applicable subsystem, to continue operations without the server providing modulation and /or RF routing. Accomplished procedures for manual operations with minor errors or omissions that did not adversely affect mission accomplishment. Unsure or hesitant when routing RF, program and monitoring sources.

8.4.7.3. U. Unsatisfactory operational knowledge of the applicable systems, to continue operations without the server providing modulation and/or RF routing. Unable to use manual operations without major errors or omissions, adversely affecting mission accomplishment.

8.4.8. Area 405. Tactics/Defensive Systems.

8.4.8.1. Q. Demonstrated satisfactory knowledge of defensive systems/tactics. Provided appropriate threat calls and appropriate inputs to crew during mission.

8.4.8.2. Q-. Was unfamiliar with appropriate tactic for a given scenario. Did not make timely inputs to crew during mission. Made minor errors providing threat calls to crew during mission.

8.4.8.3. U. Possessed an unsatisfactory knowledge of defensive systems. Made major errors in threat analysis or tactics selection would have resulted in an unsuccessful mission. Failed to properly perform threat calls/duties.

8.4.9. Area 406. Power Up.

8.4.9.1. Q. Adequate systems knowledge to perform power up procedures to meet event requirements. Time to power up: less than 15 minutes.

8.4.9.2. Q-. Limited systems knowledge to perform power up procedures to meet event requirements. Time to power up: 15-20 minutes.

8.4.9.3. U. Inadequate systems knowledge to perform power up procedures to meet event requirements. Time to power up: greater than 20 minutes.

8.4.10. Area 407. Amplifier Checks.

8.4.10.1. Q. Adequate systems knowledge to perform power level, voltage standing wave ratio, and frequency checks accurately and timely. Proficiency 15 minutes.

8.4.10.2. Q-. Limited systems knowledge to perform power level, voltage standing wave ratio, and frequency checks accurately and timely. Proficiency 15-20 minutes.

8.4.10.3. U. Inadequate systems knowledge to perform power level, voltage standing wave ratio, and frequency checks. Unacceptable proficiency greater than 20 minutes.

8.4.11. Area 408. Systems Checks.

8.4.11.1. Q. Adequate systems knowledge to apply modulation, check transmitter quality, modulation level, and harmonics accurately and timely. Proficiency 15 minutes.

8.4.11.2. Q-. Limited systems knowledge to apply modulation, check transmitter quality, modulation level, and harmonics accurately and timely. Proficiency 15-25 minutes.

8.4.11.3. U. Inadequate systems knowledge to apply modulation, check transmitter quality, modulation level, and harmonics accurately and timely. Unacceptable proficiency greater than 25 minutes.

8.4.12. Area 409. Program Checks.

8.4.12.1. Q. Adequate systems knowledge to configure patching as required, record modulation as required, review modulation as required, set up levels, and cue program materials accurately and timely. Proficiency 15 minutes.

8.4.12.2. Q-. Limited systems knowledge to configure patching, record modulation as required, review modulation as required, set up levels, and cue program materials accurately and timely. Proficiency 15-20 minutes.

8.4.12.3. U. Inadequate systems knowledge to configure patching, record modulation as required, review modulation as required, set up levels, and cue program materials. Unacceptable proficiency greater than 20 minutes.

8.4.13. Area 410. Antenna Systems Checks.

8.4.13.1. Q. Adequate systems knowledge to operate receiver, check frequency, report unexpected findings, and measure/minimize VSWR as required accurately and timely. Proficiency 15 minutes.

8.4.13.2. Q-. Limited systems knowledge to operate receiver, check frequency, report unexpected findings, and measure/minimize VSWR as required accurately and timely. Proficiency 15-20 minutes.

8.4.13.3. U. Inadequate systems knowledge to operate receiver, check frequency, report unexpected findings, and measure/minimize VSWR as required accurately and timely. Unacceptable proficiency greater than 20 minutes.

8.4.14. Area 411. Trailing Wire Antennae (TWA) Extension/Retrieval.

8.4.14.1. Q. Adequate systems knowledge and skill to note required data extend TWA then retrieve antenna within parameters.

8.4.14.2. Q-. Limited systems knowledge and skill to note required data, extend TWA, then retrieve antenna within parameters. Accomplished procedures with minor errors or omissions that did not adversely affect mission accomplishment.

8.4.14.3. U. Inadequate systems knowledge and skill to note required data extend TWA then retrieve antenna within parameters. Unable to extend or retrieve without major errors or omissions, adversely affecting mission accomplishment.

8.4.15. Area 412. Electronic Attack.

8.4.15.1. Q. Initiated jamming at the preplanned or scheduled window. If tactical situation dictated a change in the jam window, adjustments were made as required. Conducted jamming look-through (if directed) to ensure situational awareness was maintained throughout the entire jam window. Ensured antennas were used safely and effectively. Document events as required.

8.4.15.2. Q-. Delayed jamming in a preplanned window. Jam window adjustments were made but not optimal for the tactical situation. Conducted limited jamming look-through (if directed) resulting in degraded situational awareness. Antennas were not always efficiently used. Event documentation contains minor errors.

8.4.15.3. U. Failed to initiate jamming in a preplanned or scheduled window. Failed to make adjustments in the jam window when the tactical situation dictated a change. Failed to conduct jamming look-through (if directed) resulting in a complete loss of situational awareness. Appropriately utilized transmitters and antennas were not used efficiently. Event documentation inaccurate or nonexistent.

8.4.16. Area 413. Event Operations.

8.4.16.1. Q. Adequate systems knowledge and skill to apply modulation, confirm frequency, antenna, and mode accurately and timely. Document events as required. Proficiency 1 minute.

8.4.16.2. Q-. Limited systems knowledge and skill to apply modulation, confirm frequency, antenna, and mode accurately and timely. Event documentation contains minor errors. Proficiency 1-2 minutes.

8.4.16.3. U. Inadequate systems knowledge to and skill to apply modulation; confirm frequency, antenna, and mode accurately and timely. Event documentation inaccurate or nonexistent. Unacceptable proficiency greater than 2 minutes.

8.4.17. Area 414. Power Down/Post Flight/Debriefing.

8.4.17.1. Q. Had thorough knowledge and performed required procedures. Correctly determined condition and status of equipment. Documented required equipment notes,

discrepancies, and modulation quality. Thoroughly debriefed maintenance personnel as required.

8.4.17.2. Q-. Had limited knowledge of required procedures. Was unsure of condition or status of the equipment. Required documentation was incomplete. Maintenance debriefing was not concise or thorough.

8.4.17.3. U. Knowledge of required procedures was unsatisfactory. Major deviations in procedures. Could not determine condition or status of equipment. Required documentation was incorrect. Maintenance debriefing was inadequate.

8.4.18. Area 415. NVG Usage/Limitations.

8.4.18.1. Q. Correctly described the use/limitations of NVG.

8.4.18.2. Q-. Minor omissions or deviations in describing the use/limitations of NVG. Did not properly pre-flight, handle, or use NVG during the flight, but caused no damage to equipment. Mission success was not negatively affected.

8.4.18.3. U. Procedures for using NVG were incorrect. Caused damage to equipment. Mission was unsuccessful as a result of improper NVG usage.

8.4.19. Areas 416-499. Reserved for future use.

Chapter 9

MISSION CREW COMMANDER

9.1. General. Mission qualified Mission Crew Commanders require a combined qualification and mission evaluation. Instructors will demonstrate instructor duties on all periodic evaluations. (T-2)

9.2. Requirements. Evaluate all applicable general areas outlined in [Table 2.1](#) and [Table 4.1](#) on all evaluations. Also, evaluate all instructors on areas in [Table 3.1](#) on all evaluations. MCC specific areas and criteria are listed in this chapter. Open and closed book examinations, boldface and an EPE are requisites for periodic evaluations and are pre-requisites for initial evaluations. IAW [Paragraph 1.9](#), for areas without a note, flight examiners may evaluate at their discretion if observed. All requirements for MCC qualification/mission evaluations are Tier 2 requirements unless otherwise noted. (T-2)

9.3. Combined Qualification/Mission. In addition to areas listed in [Tables 2.1, 3.1, and 4.1](#), mission evaluations will include applicable areas in [Table 9.1](#). (T-2)

9.3.1. Initial/Requalification. All required areas from [Table 9.1](#) must be evaluated on initial/re-qualification evaluations. If mission profiles cannot support all items in [Table 9.1](#), then ground evaluation of those items will be acceptable. Initial evaluations will be performed in the aircraft. Requalification evaluations should be performed in the aircraft, however, if approved by 193/OGV the evaluation may be performed in the PTT. (T-3)

9.3.2. Periodic Mission/Qualification. Profiles will reflect a sampling of the squadron's missions. As a minimum, secure communications, mission planning and execution will be used to conduct MCC periodic evaluations.

Table 9.1. MCC Grading Areas (T-2).

Area	Grading Areas	QUAL/MSN
500	Mission Planning/Target Area Assessment/Analysis ¹	X
501	General MCC knowledge ¹	X
502	Use and knowledge of MCC/ Program Technician (PT) Equipment ¹	X
503	Knowledge of Special Mission Equipment and Capabilities ¹	X
504	Dynamic In-Flight Tasking/Re-Planning	
505	Tactics/Tactical Employment	
506-507	Reserved for future use.	
Notes:		
1. Required in-flight or simulator certified facility or alternate method for this event.		

9.4. Grading Criteria. (T-2)

9.4.1. **Area 500. Mission Planning/Target Area Assessment/Analysis.**

9.4.1.1. Q. Checked all factors applicable to the mission. Demonstrated sufficient target/tasking knowledge to complete mission planning in an effective manner. Complied with local directives governing procedures. Demonstrated knowledge of available alternatives. Had sufficient knowledge of the applicable theater of operations and order of battle; accurately described the operations, components, and limitations of weapons systems employment. Demonstrated a working knowledge of the computerized mission planning tools and able interpret output products for use during planning.

9.4.1.2. Q-. Checked all information required to complete mission planning, but with minor errors or omissions that did not degrade mission accomplishment. Target/tasking knowledge was incomplete or inaccurate, but sufficient to complete mission planning. Limited knowledge of the theater of operations and order of battle which impaired mission accomplishment. Minor errors in describing the operations, components and limitations of weapons systems employment. Limited knowledge of the use of the computerized mission planning tools or misinterpreted the output products, which did not adversely affect mission accomplishment.

9.4.1.3. U. Errors or omissions in mission planning that could have jeopardized safety or adversely effected mission accomplishment. Target/tasking knowledge was insufficient to complete mission planning. Deviations in procedures resulted in incomplete/inaccurate planning. Knowledge of the theater of operations and order-of-battle was inadequate and could prevent mission accomplishment. Could not describe operations, components or limitations of weapons systems employment. Limited knowledge of the use of the computerized mission planning tools or misinterpreted the output products, which could adversely affect mission accomplishment.

9.4.2. Area 501. MCC General Knowledge.

9.4.2.1. Q. Demonstrated a thorough knowledge of mission system capabilities, limitations, operating procedures and restrictions and where to find them in the correct publications.

9.4.2.2. Q-. Limited knowledge of mission system capabilities, limitations, operating procedures or restrictions. Any instances of limited knowledge did not jeopardize safety.

9.4.2.3. U. Unaware of mission system procedures capabilities, limitations, operating procedures or restrictions and/or could not locate them in the appropriate publication. Failed to comply with a procedure that could have jeopardized safety or mission success.

9.4.3. Area 502. Use and knowledge of MCC/PT equipment.

9.4.3.1. Q. Demonstrated thorough knowledge and use all MCC equipment. Demonstrated a thorough knowledge of PT Equipment.

9.4.3.2. Q-. Limited knowledge and operation of MCC equipment. Minor deviations in system operation that caused some delay but did not jeopardize overall mission accomplishment. Limited knowledge of PT equipment.

9.4.3.3. U. Operation or knowledge of MCC/PT equipment was inadequate. Deviations jeopardized overall mission accomplishment or delay to mission execution.

9.4.4. Area 503. Knowledge of Special Mission Equipment (SME) and Capabilities.

9.4.4.1. Q. Demonstrated knowledge of all SME equipment capabilities, to include transmitter quantities, frequencies, parameters, and applications. In addition, demonstrated knowledge of antennas, frequencies, parameters, and applications.

9.4.4.2. Q-. Limited knowledge of all SME equipment capabilities, to include transmitter quantities, frequencies, parameters, and applications. In addition, demonstrated knowledge of antennas, frequencies, parameters, and applications.

9.4.4.3. U. Knowledge of SME equipment capabilities, to include transmitter quantities, frequencies, parameters, and applications was inadequate. In addition, demonstrated inadequate knowledge of antennas, frequencies, parameters, and applications. Defensive systems were unsatisfactory.

9.4.5. Area 504. Dynamic In-Flight Tasking/Replanning.

9.4.5.1. Q. Correctly planned and executed an in-flight retasking with no errors in a timely manner.

9.4.5.2. Q-. Planned and executed an in-flight retasking with minor errors in an untimely manner.

9.4.5.3. U. Failed to plan and execute an in-flight retasking.

9.4.6. Area 505. Tactics/Tactical Employment.

9.4.6.1. Q. Employed weapons system in accordance with published procedures. Made adjustments for limitations imposed by threats, terrain, or equipment failure/degraded operations and tasking.

9.4.6.2. Q-. Minor errors or deviations from published procedures while employing weapons system but did not prevent accomplishment of the mission. Demonstrated limited knowledge of adjustments for limitations imposed by threats, terrain, or equipment failure/degraded operations.

9.4.6.3. U. Major errors or deviations from published procedures that prevented accomplishment of the mission. Demonstrated inadequate knowledge of adjustments for limitations imposed by threats, terrain, or equipment failure/degraded operations.

9.4.7. Areas 506-599. Reserved for Future Use.

Chapter 10

WEAPON SYSTEMS OFFICER (WSO)

10.1. General. A Weapon Systems Officer qualified in both the CSO and MCC crew positions is required to take combined qualification and mission evaluations in both crew positions. Every effort should be made to schedule both evaluations as close together as possible. The Evaluation Required Date (ERD) will be set at the completion of the second evaluation. Instructors will demonstrate instructor duties on all periodic evaluations in the appropriate positions. (T-2)

10.2. Requirements. Follow the requirements as defined in [Paragraph 6.2](#) and [9.2](#) of this regulation for the given position evaluation. WSO open and closed book examinations, boldface and an EPE are requisites for periodic evaluations. (T-2)

10.3. Combined Qualification/Mission. Follow the requirements as defined in [Paragraph 6.3](#) and [9.3](#) of this regulation for the given position evaluation. (T-2)

10.3.1. Initial/Requalification. Follow the requirements as defined in [Paragraph 6.3.1](#) and [9.3.1](#) of this regulation for the given position evaluation. For initial qualification, pre-requisite open book and closed book testing is based on the crew position being evaluated. (T-2)

10.3.2. Periodic Mission/Qualification. Follow the requirements as defined in [Paragraph 6.3.2](#) and [9.3.2](#) of this regulation for the given position evaluation. (T-2)

TOD D. WOLTERS, Lt Gen, USAF
Deputy Chief of Staff, Operations

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFPD 11-2, *Aircrew Operations*, 19 January 2012

AFPD 11-4, *Aviation Service*, 1 September 2004

AFI 11-200, *Aircrew Training, Standardization /Evaluation, and General Operations Structure*, 19 January 2012

AFI 11-202, Vol 2, *Aircrew Standardization/Evaluation Program*, 13 September 2010

AFI 11-202, Vol 3, *General Flight Rules*, 22 October 2010

AFI 11-215, *Flight Manuals Program*, 22 December 2008

AFI 11-218, *Aircraft Operations and Movement on the Ground*,

AFI 11-290, *Cockpit/Crew Resource Management Training Program*, 15 October 2012

AFI 11-2EC-130J, Vol 1, *EC-130J Aircrew Training*, 15 September 2011

AFI 11-2EC-130J, Vol 2, *Aircrew Evaluation Criteria*, 27 June 2008

AFI 11-2EC-130J, Vol 3, *EC-130J Operations Procedures*, 21 January 2010

AFMAN 33-363, *Management of Records*, 1 March 2008

AFMAN 24-204(I), *Preparing Hazardous Materials for Military Air Shipments*, 3 December 2012

Adopted Forms

AF Form 8/8a, *Certificate of Aircrew Qualification*

AF Form 847, *Recommendation for Change of Publication*

AF Form 3862, *Flight Evaluation Worksheet*

AF Form 4031, *CRM Skills Criteria Training/Evaluation*

AFSOC Form 48, *Flight Evaluation Worksheet*

AFTO Form 781, *ARMS Aircrew/Mission Flight Data Recorder*

DD Form 365-4, *Weight and Balance Clearance Form F-Transport*

Abbreviations and Acronyms

AAR—Air-to-Air Refueling

ATD—Aircrew Training Device

AETC—Air Education and Training Command

AF—Air Force

AFI—Air Force Instruction

AFPD—Air Force Policy Directive
AFMAN—Air Force Manual
AFPD—Air Force Policy Directive
AFSOC—Air Force Special Operations Command
AGL—Above Ground Level
ARMS—Aviation Resource Management Systems
ASR—Airport Surveillance Radar
ATA—Actual Time of Arrival
ATD—Aircrew Training Device
AWACS—Airborne Warning and Control System
CARP—Computed Air Release Point
CAT—Category
CE—Circular Error
CDS—Container Delivery System
CG—Center of Gravity
CNI-MU—Communication, Navigation, Identification Management Unit
COMSEC—Communication Security
CRM—Crew Resource Management
CS—Commando Solo
CSO—Combat Systems Operator
CSS—Communication System Suite
DEAD—Destruction of Enemy Air Defense
DSO—Direct Support Operator
DZ—Drop Zone
ECS—Electronic Communications Systems
EEL—Essential Elements of Information
EPE—Emergency Procedures Evaluation
ERD—Evaluation Required Date
ERO—Engine-Running Offload
ETA—Estimated Time of Arrival
ETP—Equal Time Point
FARP—Forward Area Refueling Point

FCIF—Flight Crew Information File
FDP—Flight Duty Period
GPS—Global Positioning System
HAAR—Helicopter Air-to-Air Refueling
HE—Heavy Equipment
HF—High Frequency Operator
HQ—Headquarters
HRS—Hot Refueling Supervisor
HTWA—Horizontal Trailing Wire Antenna
IAW—In Accordance With
ICS—Intercommunications system
ILS—Instrument Landing System
IMT—Information Management Tool
INSTM—Instrument
IPRA—Integrated Precision Approach Radar
IRC—Instrument Refresher Course
LM—Loadmaster
LOC—Localizer
LOS—Line of Sight
MAC—Mean Aerodynamic Chord
MAJCOM—Major Command
MAP—Missed Approach Point
MCC—Mission Crew Commander
MDA—Minimum Descent Altitude
MDS—Mission Design Series
ME—Maximum Effort
MF—Medium Frequency Operator
MFCD—Multi-functional Control Display
MFF—Military Free Fall
MK—Mission Qualified Radio ECS
MSN—Mission
NAS—National Airspace System

NAVAID—Navigational Aid
NB—Narrowband Operator
NDB—Non-directional Beacon
nm—Nautical Mile
NVD—Night Vision Device
NVG—Night Vision Goggles
OPR—Office of Primary Responsibility
OPSEC—Operations Security
PA—Precision Approach
PAR—Precision Approach Radar
PF—Pilot Flying
PM—Pilot Monitoring
PO—Panel Operator
PT—Program Technician or Procedure Turn
PTT—Part Task Trainer
QUAL—Qualification
RDS—Records Disposition Schedule
RETA—Revised Estimated Time of Arrival
RNP—Required Navigation Performance
RQS—Rescue Squadron
SA—Situational Awareness
SATB—Standard Airdrop Training Bundle
SATCOM—Satellite Communications
SEAD—Suppression of Enemy Air Defense
SCA—Self-Contained Approach
SME—Special Mission Equipment
SOF—Special Operations Forces
SOW—Special Operations Wing
STAR—Standard Terminal Arrival
TACAN—Tactical Air Navigation
TAAR—Tilt-rotor Air-to-Air Refueling
TDR—Tactical Data Receiver

TO—Technical Order (s)

TOA—Time-of-Arrival

TOLD—Takeoff and Landing Data

TOT—Time-on-Target

TTP—Tactics, Techniques, and Procedures

TWA—Trailing Wire Antennae

VDP—Visual Descent Point

VFR—Visual Flight Rules

V_{mca}—Air Minimum Control Speed

VOR—Very High Frequency Omni-Directional Range Station

VTWA—Vertical Trailing Wire Antenna

WB—Wideband Operator

WSO—Weapons Systems Officer

WST—Weapon System Trainer